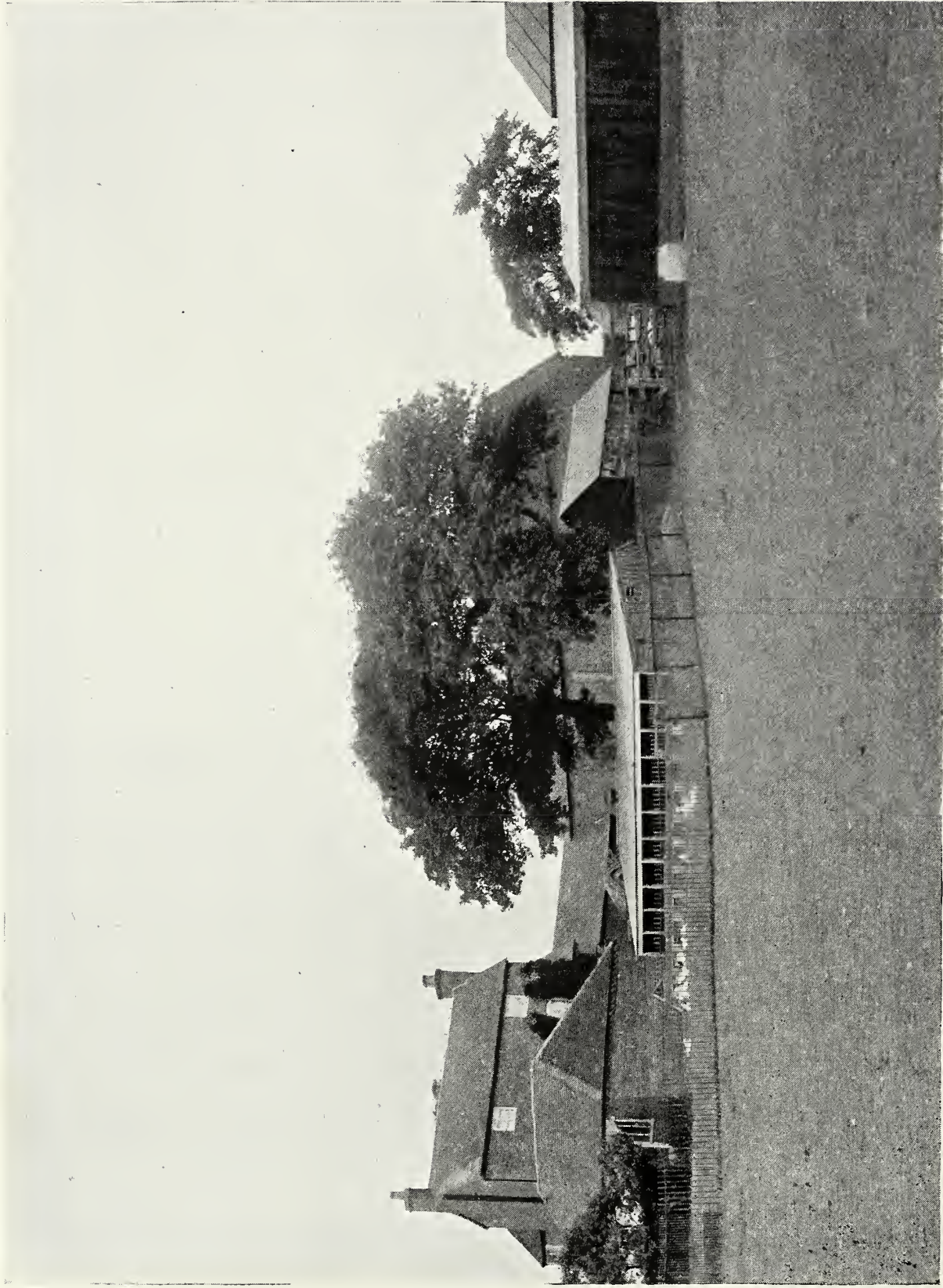


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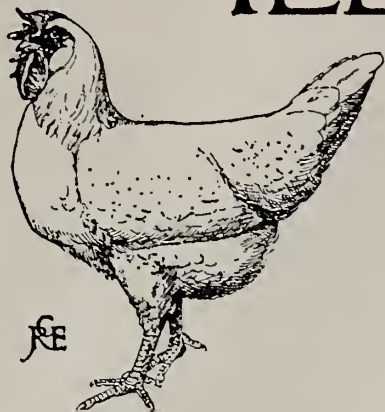
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On many present-day farms poultry-keeping is conducted on modern and up-to-date lines. The above photograph shows an excellently equipped brooder-house on a large farm in the Midlands,

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DIARY OF THE MONTH.

EDITORIAL NOTICES.

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The Editor will be glad to consider any MSS., photographs, or sketches submitted to him, but they should be accompanied by stamped addressed envelopes for return if unsuitable. In case of loss or injury he cannot hold himself responsible for MSS., photographs, or sketches, and publication in the ILLUSTRATED POULTRY RECORD can alone be taken as evidence of acceptance. The name and address of the owner should be placed on the back of all pictures and MSS. All rights of reproduction and translation are reserved.

The Editor will be glad to hear from readers on any Poultry Topics, and all Queries addressed to the paper will be answered by experts in the several departments. The desire is to help those who are in difficulty regarding the management of their poultry, and accordingly no charge for answering such queries is made.

The Annual subscription to the ILLUSTRATED POULTRY RECORD at home and abroad is 8s., including postage, except to Canada, in which case it is 7s. Cheques and P.O.O.'s should be made payable to the ILLUSTRATED POULTRY RECORD.

The ILLUSTRATED POULTRY RECORD is published on the first of every month. Should readers experience any difficulty in securing their copies promptly they are requested to communicate immediately with the Editor. The latest date for receiving advertisements is the 20th of the month preceding date of issue.

The utmost care is exercised to exclude all advertisements of a doubtful character. If any reader has substantial grounds for complaint against an advertiser he is requested to communicate at once with the Editor.

"The Problem of the Hour."

The heading is not our own. It is that chosen by a writer in a contemporary to draw attention to a subject that is for ever cropping up and causing discussion in Fancy circles on the approach of the first shows of the year. It is worth comment. The matter, as our readers are doubtless aware, concerns chickens. The exhibiting of over-age chickens is becoming so common nowadays that those who do not hold with it may be said to be out of the fashion. This is no exaggeration on our part, and wherever classes are put on for birds "hatched on or after January 1" there one will often find two or three specimens of such wonderful development as to cause adverse criticism among those fanciers present. It is said that only the old hands and the so-called professionals know how to grow their birds for the early shows; but within the past two or three years some of these doubtful chickens have been shown in the names of novices. Thus our statement that it is, to all intents and purposes, the fashion. As a rule, it is during the early summer fixtures that these forward birds are most noticeable. But it must not be thought that the exhibiting of them is confined solely to those events. By no means. They get penned at autumn and winter competitions almost as often as at the earlier ones; but the fact that genuine birds of the year are then generally well furnished gives the old "chickens" less chance of being detected.

Can it be Solved?

All of us will agree that steps should be taken to put a stop to the exhibiting of over-age birds—as many of the so-called "forward chickens" unquestionably are—but who can do so? Some writers have laid the blame at the door of the Poultry Club. That body, being the governing one in the Fancy—for this occasion, at any rate

—should get to work again and settle the question once and for all! The Poultry Club Council has given the matter its most serious consideration, and, naturally enough, it has failed to solve the problem. And why? Simply because the whole question is in the hands of the exhibitors themselves. It is a matter of honesty, nothing more, nothing less. As long as there are exhibitors who lack the quality that is the very essence of the fancier, just so long will there be those who, for the gain of a paltry prize, will resort to any means to attain their end. It has been said that if it were compulsory for all birds to be rung with the ring of the Marking Conference it would do much to solve the problem. Believe us, it would not. It might check the showing of over-age chickens for a time, but only for a time, and that a short one. No; it is a matter of honesty, just that and nothing else. Look at the difficulty as you will, that is the only way out of it.

Poultry at Boxted.

With the questions involved in the dispute between the Salvation Army and some of its tenants on the farm at Boxted we have no concern, as these involve considerations upon which we have no data for forming an opinion. The points at issue may be left to those appointed to decide thereon. In the evidence, however, poultry occupied a prominent position, and it was apparent that the breeding of fowls was regarded as an important part of the operations. That in this direction some would fail where others succeeded might have been expected, for such is the experience everywhere. There are those who instinctively know what to do with their poultry and when to do it, both of equal importance to secure the desired success, whilst, on the other hand, some people always fail either as a result of negligence or belated action. The risks of the latter are always greater with those who have had no experience, as they do not realise the essential importance of attention to detail, the individual value of which has never presented itself. This leads us to say, again without any reference to the Boxted case, that success of small holdings will, apart from special cases, depend very largely upon those who control and supervise being themselves qualified for their work, not merely novices or theorists. It is, therefore, essential that as the new developments are made the supply of men and women able to instruct because they know shall be sufficient. In this direction is a vast field for public service. Such instructors must possess other qualifications, but what is stated above is indispensable, and we must see that they are insisted upon.

What an Instructor Should Know.

This leads to the discussion of a question upon which very erroneous ideas prevail. Recently we

saw a report of a meeting of farmers in a county that need not be named, at which very strong statements were made respecting the county agricultural adviser, the object of which was to get rid of him and thus save his salary. One speaker went so far as to say that it was an insult to the farmers of the district to send a young fellow like the one in question to teach them the art of agriculture, as they knew all about it long before he was born. That the farmers in the district have much to learn cannot be questioned. How far the man appointed was suitable for the position we have no means of judging, except that he has been well trained, is an earnest, zealous worker, anxious to help in every way possible. That does not, however, affect the point we wish to make—namely, what is the main work of those occupying such positions. Farmers and poultry-keepers alike have neither the time nor the opportunity for studying developments taking place elsewhere, much less to see for themselves what others are doing. As a result they get into ruts, following the same methods as of yore, whether these are obsolete or not. Such is not the way of progress, by which is meant movement, not stagnation. It is not too much to say that isolation and stagnation are synonymous. The first step for advancement is to breed discontentment from the knowledge that others are doing better, for then there is a possibility of improved systems finding acceptance and adoption. The prime work, therefore, of instructors is to glean this knowledge of practice and method elsewhere found, and, as far as suitable to the immediate conditions, bring that to such as live there. This can be done without assumption of superiority but with an earnest desire to stimulate. Many there are who decry competition, who would by communalism destroy one of the most powerful factors working for advancement of the race. We believe that when once the function of instructors is understood such statements as those referred to above would be an impossibility.

The Derivation of "Bantam."

Designations are often misleading, as proved by the names given to sundry of our breeds of poultry, of which Hamburgh and Polish fowls and Rouen ducks are examples. Although Mr. W. B. Tegetmeier, in his "Book of Poultry," questions whether Bantams came from the town of that name in Java, acceptance of Eastern origin for the older types of these races has been so general that, in dictionaries and poultry books alike, the connection has been assumed. Recently in *Farm Poultry* the question has been again raised, and it is suggested that it is a corruption of the word "banty," which is not given in dictionaries, but is commonly and colloquially used in many counties—not alone for diminutive breeds of fowls, but for smaller creatures than the ordinary.

We have often heard a little man spoken of as a "banty," which would not be used for a dwarf. Probably "banty" is merely an abbreviation of "bantling." That does not help us much. A cursory glance at older poultry books shows that the name Bantam was definitely used a hundred years ago and more, at which period the connection with Asia appears to have been accepted without question. The late Mr. Harrison Weir, in "Our Poultry," whilst calling attention to the fact that Mr. Glanius, who visited Java, makes no mention of any very small fowls, says: "Certain it is that the pert, feather-footed, falcon-hocked, tiny though valorous birds were named Bantams from the name of the place where they were shipped." So far as we have been able to discover, there is no direct evidence as to when and how the term Bantam was first applied, but it is probable that an importation of these small birds from Asia, where they are and have been well known, possibly from the Port of Bantam, led to its adoption. That it is derived from "banty" is not so likely as that the latter is an abbreviation of the former. We Anglo-Saxons are peculiar in nomenclature. In most foreign countries the term used represents our word dwarf, as the French *nain*. But dwarf in its modern meaning would not be so good.

The Dubbing of Game Fowls.

That the dubbing of game fowls is illegal seems to be unquestionable. Recent decisions make that very clear. Such has been known for years. It is only the want of action, or of evidence, on the part of the R.S.P.C.A. which saves every exhibitor of Game and Game Bantams from being hauled before a Bench of Magistrates and fined for what is against the law of the land. Such is a position no one can contemplate with equanimity. All questions as to whether the operation is painful, or to what extent it is so, are as nothing in view of the fact that it is merely a question of fashion in exhibitions, and that there is no actual proof that it is for the benefit of the birds or a necessity. Few people keep game fowls except for show purposes, and the exhibitor is able to yard them separately if he desires to do so. Hence the defence of this system is a very weak one, especially in view of the fact that there are many of the cocks of the other breeds which will fight and tear the combs if permitted to get at each other, yet no one proposes to dub these; in fact, the birds would be disqualified if shown minus their combs. When cocking was a recognised sport dubbing was justified, but fanciers must recognise the changes resultant from its prohibition. What should be done, therefore, if dubbing is to be continued, is to get the law changed. The Poultry Club can scarcely be expected to take up the defence of game breeders, as it burnt its fingers badly over the question some years ago.

Governmental Rivalry with Breeders.

The exchanges from Victoria show that considerable feeling has been evoked among poultry-breeders by the announcement that the Ministry of Agriculture has imported several lots of fowls for the Government's stud farm, and that it is proposed to sell sittings of eggs for hatching at a couple of guineas the dozen. It is the latter aspect of the question which touches the spot. Poultrymen are asking whether it is right that they should be subjected to a competition of this kind, subsidised by public money, and one writer asks why the Ministry does not go in for the importation and sale of furniture and agricultural implements. As White Leghorns of the English type are among the birds thus brought overseas, comparisons are made between those bred on Australian lines and the English birds by no means favourable to the latter. That interchange of birds between different countries is a good thing we have no doubt whatever, but, so far as this is concerned, there has been no indisposition of Australian breeders to import the best obtainable wherever these were to be got. Hence the Governmental action seems to be unnecessary. Were it only as a question of demonstration, no fault could be found. It is the sale of eggs which is more than doubtful—at least, in a country where so much has been done for improvement of the poultry kept. Under those conditions, as in Britain, we are convinced that the central authorities will do well to confine their attention to education, to dissemination of information, and to supporting organisation of the trade, leaving the commercial side to individuals, who, as taxpayers, have a right to be defended against competition of this nature.

The Influence of Incubators.

A novel suggestion—novel, that is, by reason of the fact that it has not occurred to anyone before—is made by one of the weekly agricultural papers, which submits that one reason for the growing winter scarcity of eggs is the increasing use of incubators. The *Mark Lane Express* says that:

The people who get eggs in quantities in the winter are essentially persons who manage their fowls properly, and in many cases make poultry-keeping their business. We called on such a one a week or two ago, and though he was getting more than a hundred eggs a day, and could make twopence apiece for them, very few were going to market, for the simple reason that they were wanted for the incubators.

Nothing is stated as to where the place visited was situated, but we suspect it was in the table-poultry districts, where winter supplies have always been scarce for this reason. In other parts of the country the same conditions would not prevail, for those who look mainly to sale of eggs for their returns do not, and have no need to,

hatch during the dearest months of the year. Our main trouble is that they do not hatch early enough. Under those conditions we have to find another explanation than that given, although perfectly true where spring chickens are the profitable branch. It is all a question of what pays better. To the chicken-farmer an egg is more valuable as a potential chicken than for ordinary market purposes, even though saleable at twopence.

"Russians" and "Pickles" in Ireland.

Eggs have been figuring to a considerable extent in the Irish police-courts of late, satisfactorily and the reverse. In a Dublin case a retailer was deservedly fined for selling foreign eggs as "Guaranteed New-Laid Irish," although the price asked, 1s. per dozen, was in itself an indication that such could not be, as the wholesale price of native supplies was at least 25 per cent. above the amount at the time named. This was the usual attempt to mislead and deceive the public. The second case was at Belfast, where a woman living outside that city was seen to go into a wholesale dealer's with empty baskets and come out with them filled with eggs, after which she went to the farmers' market and sold them as from her own hens or from those of her neighbours. As it could not be proved that they were unfit for food, although a measure of deception was apparent, the case failed upon a legal point owing to the wording of the Act under which action was taken. In a third case, this time in Dublin, the Longford Poultry Society made claim against a Dublin provision merchant for cases of Russian preserved eggs proved to be rotten, and deservedly failed in their suit. That, however, is of small moment as compared with what was acknowledged—namely, that this Co-operative Poultry Society was dealing with foreign eggs. Such is totally against the spirit of co-operation, and if persisted in will not only destroy all confidence in such societies, but, by placing them in the rank of all ordinary dealers, will lead rightly to a demand that they shall lose privileges granted on the ground that they are combinations of producers. We cannot conceive anything that would be a greater blow to agricultural co-operation than a case like this.

Can Non-Sitters Lay White-Shelled Eggs?

Many of the secrets of Mother Nature are yet to be revealed. One of these is whether there is any relation between the maternal instinct and the colour of the egg-shell. Here is a great mystery upon which, as yet, no light has been thrown. The question has been previously discussed in the *POULTRY RECORD*, but it did not afford any insight into the problem. Whilst it is evident that there are sitting-breeds which produce white-shelled eggs—notably the Dorking—it is a fact

that no one of the non-sitters lays eggs with brown shells, and that where by infusion of alien blood, as in the case of the Brown Leghorn a few years ago, resulting in a development of the maternal instinct, with it there was a marked increase in the number of hens laying tinted eggs. The question is one of great interest, and we should be glad to publish any facts that will throw light upon it. For many years breeders have expressed a desire to attain the combination referred to, and, therefore, the inquiry may be made as to whether it is a possibility.

Lord Pentland.

The announcement made as to the retirement of Lord Pentland from the position of Secretary for Scotland, occupied by him since December, 1906, and that he is to be Governor of Madras, has been received by those interested in the poultry industry with sincere regret. His tenure of office has been marked by important developments in Northern Britain. The appointment of a Departmental Committee on Poultry Breeding in Scotland, in 1908, was due to his personal realisation of the opportunities presenting themselves in that country, and its report, published in 1909, marked a new era in this subject, the fruits of which have already been seen, and will be more manifested in the future. For that action his administration will ever be memorable. A portrait of Lord Pentland was given in the *POULTRY RECORD* of June, 1909 (Vol. I.). All poultrymen will unite in the expression of good wishes for success in the new position to which he has been appointed.

An Old Fancier's Story.

We have pleasure in publishing this month the first of a short series of "Personal Letters from an Old Fancier," the term used referring to experience rather than to years, for there are no old men now. These, we believe, will be read with considerable interest. Combining, as the first does, wise counsel with the true fancier spirit, questions are raised which are of considerable importance. There is always a danger that in the bustle and turmoil of present-day affairs the higher aspects of the pursuit should be forgotten, which would be a great mistake. Nothing is of greater import than that judges shall be men with true ideals, leaders, in fact, strong in the consciousness of their knowledge, fearless in action, and above reproach. That such has not always been so is unquestionable, and it may be that the observations of one looking upon present-day conditions from Olympian heights will help to maintain a high standard among the newer men, if these are willing to learn from the experience of others. For obvious reasons our correspondent desires to hide his identity, and we shall respect his wishes. What he says is where the value lies, not in his personality.

PERSONAL LETTERS FROM AN OLD FANCIER.

I.—TO A YOUNG JUDGE.

DEAR JONAS,—So you are aspiring to the judicial status, and have made your *début* as an adjudicator of prizes at an exhibition of poultry. From the fact that I have seen no drastic criticisms on your awards, it is evident that either you came through the ordeal satisfactorily or that the reporters were—

To your virtues very kind

To your faults a little blind.

Whichever is true, I congratulate you. It is the beginning that counts.

Well! well! Such is life. We of the older generation who are on the shelf, or rapidly qualifying for that position, must always feel a deep interest in, and sympathy with, younger men who have still to go through the mill which ground us in days far back, and watch closely how you succeed. It is all a question of selection. Many can be recalled who started well but made a failure as a result of inability, or in that they succumbed to temptation of one kind or the other. Perhaps you will not mind if an old fogey tells you some of his thoughts. You may not value them—few young men do. None the less, they may be useful. At any rate, the telling will do me good.

The first is that judges are born—not made. Believe me, I do not mean that training and experience are not required, for without these any man is a fool who accepts the position, and there have been plenty of them, merely hangers-on to other people's opinions, popular it may be because they always give the prizes to birds owned by a few well-known exhibitors, to whom Show Committees truckle so as to secure their support. These are not judges. They are simply card distributors, a sort of superior bill-poster, with a select coterie as recipients.

The real judge is one who—plus training and experience—has a natural instinct for discerning the best. This is a quality given to but few men, and fewer women. Well do I remember many years ago one such man, though there have been several others, but I mention him because he very seldom acted as judge, although one of the best I ever knew. Put before him a dozen birds or animals of any breed, even though he had never seen the like before, and he would assuredly pick out the winners, placing them in correct order. He had an instinctive capacity which enabled him to gauge the type and idealise it. Would there were more like him. I do not say that he gave the same weight as some other judges to minor and unimportant points, which are often abnormalities, but that was all the better. Had he lived long

enough he might have developed into a great influence.

Now, my dear Jonas, which of these are you going to be? That is for yourself to settle. Unless you have something of the former in your make-up, the sooner you gracefully retire the better, for you are almost sure to become one of the hanger-judge lot, a discredit to themselves and the whole pursuit. Test yourself, my dear fellow. Be your own severest critic. If, when you get before an array of pens, you feel fogged, scarcely able to make up your mind, and compelled to place the cards because you must, not where you know the decisions to be in accordance with your own ideals, take my advice, give it up. Every man has his limitation, and that will be yours. Unless you have formed in your mind a picture of what a breed is or ought to be, how can you do justice to it or to yourself? The thing is impossible. I know that ideals change, and you must do the same, but not without good reason and upon a definite and reasonable plan.

Perhaps you may think I have exalted the judicial function too highly, and that something lesser is good enough. If so, I pity you from the bottom of my heart, for you have started on the down grade at a very early stage. The business of a judge is not merely, as is commonly supposed, to award prizes at a given show. He ought to be able to do more than that—to make his decisions conduce to the definite improvement of the breed by discouraging everything that would debase it. Think of a judge's power and responsibility. It is greater than that of clubs and standards combined. Some of us older men can call to mind how that our predecessors and colleagues, long gone over to the great majority, profoundly affected the types of certain breeds, in some cases for good, in others for evil, how that one of these by giving undue weight to pencilling brought disaster upon the most popular breed of his day. Happily such as he, worthy man as he was, were in the minority. Knowing practically the difficulty of getting even pencilling, its attainment was an obsession with him. He could see nothing else. Do you think the Modern Game or the Langshan would ever have attained its present shankiness had judges not encouraged the breeders in their awards? I say all this to emphasise the dignity of the calling.

Remember, also, that a judge has always to think of the novices, the budding exhibitors—to whom a word of encouragement, a gleam of hope, means so much. If ever it is a question of doubt

as to a bird you know and one you do not know, give it to the unknown. In ninety-nine cases out of a hundred it will be the better, and you may thus give encouragement to a budding breeder. Above all, remember that your business is to award prizes to the birds and not their owners. The adjudicator who arrives at the last minute, hands in his slips and disappears ought never to have another engagement—more especially if he be a young man. He will learn more by going quietly over the classes afterwards, by listening to the criticisms of exhibitors, and by being compelled to explain his awards than is possible any other way. Many and many a time will he find that he might have done better, in which case, should that be your lot, be man enough to acknowledge frankly and freely your oversight or error. The man who never makes a mistake never makes anything. You will gain the respect of everyone by so doing.

Well do I remember the help given me by one of these old judges, a true gentleman in every sense. I was but a youth, and had ventured to enter two birds at our local show. They had not even a card. I could see the others were superior, but did not know enough to say where. The judge saw me examining the birds and came for a chat. He spent nearly half an hour going over the whole class, explaining the good and bad points of each, told me how much I had lost by not knowing how to get my exhibits ready for the show-pen, and finally gave advice as to what I should do to improve my stock. It was a lesson which was invaluable, and had fruit for many days. As long as he lived he was my friend, and although it is nearly fifty years ago since that occurred, his memory is still fragrant. Such should be part of your duty, from which more pleasure can be got than all the rest. A word of advice from a judge—who has no birds to sell—in this way will mean much more than you ever can realise.

Self-confidence in a judge is a necessity. Without it he is a rudderless boat, drifting nowhere. That can only be from knowledge and experience. It should not be too pronounced at first when some trepidation is desirable and helpful. Above all, do not be too cock-sure, for by that you are sure to suffer a fall. Some years ago a prominent exhibitor had trimmed a bird as far as he dare, but felt compelled to leave a few mismarked feathers in. On going into the show he saw a crowd of exhibitors before his pen and the judge in the midst. He thought he was in for it. He was a Zaccheus, and so he sidled quietly up unseen, and listened. Just as he reached the spot the judge was heard to say, pointing to this man's bird, "That is the only honest bird in the class." Things are not always what they seem, my boy, and judges are not infallible, though, like parsons and doctors, they frequently assume a knowledge

they do not possess, and try to look wiser than they really are. Try to combine confidence with humility. Be always ready to learn. Remember that in every show there are men who have forgotten more than you ever knew.

This reminds me of one important point, which is that a judge must keep his head clear. How many have gone down because they could not refuse offers of a drink from exhibitors it would be difficult to tell, but I can call to mind several worthy fellows but for this failure. I know you are a temperate man. Make it a rule never to accept either a glass or anything else from anyone. The hobnobbing of judges and exhibitors in smoke-rooms the night before and after a show is a disgrace, and ought to be prohibited. It might be well if committees segregated their judges. But there are other ways by which your virtue will be tempted. One dear old friend of mine taught a severe lesson which deserves the telling. A few days before an important show his wife received a valuable present from an exhibitor whom he had met several times, and just prior to leaving home he had a letter asking him to give his views on the birds, enclosing the numbers. He passed every one of this exhibitor's birds in his classes, and when asked by the secretary for a reason, simply said, "If — makes any inquiry, refer him to me." It was enough. His wife kept the present!

Oh, yes; you will have to suffer much from disappointed exhibitors. So long as you are sure of your judgment, they can be ignored. Woe unto you if not sure. Then you will get what you deserve in full measure and, often, running over. Such is mere justice, and it will do you good. There are two classes of disappointed showmen. One is the true fancier who honestly thinks that his own is better than the winners, but may often be convinced. He is the only one that counts. If you can show that you have a reason for your decision, although he may not agree with you, his respect will be won. Talk it over freely with him. He may help you. The other is a mere money-grubber, who does not care a jot whether the birds are rightly placed or not so long as he wins. He seldom breeds, but buys to win. I have seen these men go round the pens, mark down the cash won, and then go away without caring to see what the classes were like. The former would have no satisfaction in winning if he did not deserve to do so. The latter cares nothing for that. It is the shekels he is after. Avoid such a one in every way. He will do you harm. "A man is known by the company he keeps."

I have already suggested that you keep your head clear. Do that at all times, but especially until your work is finished. Luncheon time explains many mistakes. At a one-day show where I was not officiating, on going through the classes

all seemed right up to a given section. The judge knew his business. After that it was a complete mix-up. One could make neither head nor tail of the awards, which seemed to have been fired at the pens without rhyme or reason. On seeking an explanation, the answer was given, "Here came luncheon." The judge's weakness was champagne, when he could get it for nothing. Better a sandwich and satisfaction than champagne and chaos. And do not be overcome by the glamour of having to respond to the toast of "The Judges." It is merely a form, my dear fellow. Do not state at every show that it is the best you have ever seen. Leave someone else to say that. It gets monotonous.

by always having birds for sale to any inquirer. The first two are legitimate, though there are few men who can fairly criticise their own awards. I have known two or three, but they are few and far between, occupying an unassailable position. Better leave it alone than butter yourself. For the selling judge I have no love. It is an evil system, of which you should never be guilty, however great the temptation. Once fall and you are no longer a free man. The fault is not that of the judges alone. Men must live. It will be a good day when any man who does this is ostracised. Do not knowingly award a prize to a bird you have sold within three months. The judges' code of honour should be above reproach.



ON MISS GALBRAITH'S FARM.

These houses, open-fronted Tolmans, nine in number, have to be kept shut up till 10 a.m. yet frequently foxes kill as many as twelve or twenty on the grass—over 400 birds have been taken in the last few years. They obtain cover on the heath. The fowl-houses are in view of the dwelling-house, the meadow commencing a few feet from it. [Copyright.]

In former days there were several judges who would go anywhere for merely out-of-pocket expenses. These were men of means who gave themselves to the poultry fancy in this way, and rendered yeoman service to the pursuit. Not many can do that now. It is true they were not so cheap as it seemed. One I knew, living in a Southern county, accepted an invitation to judge a show in Scotland. He cost them £12 before they had finished with him, and it nearly ruined the society. In these times third-class is good enough for most of us. But the cheapening of judges is a great evil, and leads to the mongrels who judge the show, report it, and finish up

You will find many Show Committees unreasonable in their demands. No man should be asked to judge more than 250 birds in one day. After that number he loses the fine sense of discrimination. Possibly you may be asked to make the awards in all sorts of creatures, from cavies to white mice, whether you know anything about them or not. At a certain show the poultry judges were told that they must make the awards in a class of a dozen cats. Neither knew anything about them. They went over the lot, which were like Chinamen—all looked alike. The regulations stated that the prizes were offered for "the most perfect" animals. It turned out one was a

female. All the others were males that had been castrated. The latter were disqualified and the former accorded the first prize. Not always is the way out so easy.

Let me ask you, my dear Jonas, why you are taking up the judging profession? If greatness has been thrust upon you; if by your success as a breeder prominence has come unsought; if you think it affords an opportunity of helping forward our Fancy; or if you take it up as a pleasurable hobby, any of these will afford sufficient justification. But, on the other hand, if your idea is money, I urge you to pause. It is not a right motive, and you will assuredly fail, and I cannot wish it to be otherwise. It would pain me to see you descend to the dealer-judge type.

You ask me how judges are made? There are two methods. One is the Specialist, the successful breeder of one Variety, which he knows thoroughly. He begins by that, and gradually, as his experience increases, others are added, until he is able to act in many classes. Perhaps he is

the best of all, but it is a slow process of evolution. Some, however, never go beyond the first stage. The other method is the general breeder who, over a series of years, keeps a large number of Varieties. Few there are who can learn in that way, and it is an expensive training. Moreover, the pecuniary rewards of judging are so small that, as a rule, adjudication and breeding run together, which is undesirable. You belong to the first class. Extend your operations gradually. Do not be in a hurry, and keep your hands clean, is the advice, my dear Jonas,

Of your well-wisher,

ENOS MALPAS.

P.S.—Look out for the fakers, no matter who they may be. The bigger the fish the more important it is to catch him. He may fight, but that cannot be helped. Be sure of your facts, and then fear no one. If a few could be caught and punished then the result would be great. Your business is to protect the honest exhibitor.

FACTORS IN EGG-BUYING.

PAYING FOR QUALITY AS WELL AS NUMBER AND SIZE.

THE EVILS OF ALL-ROUND PRICES.

By EDWARD BROWN, F.L.S.



SOME time ago I addressed a meeting held at a small town in one of the Southern Counties. It was market day and an excellent audience assembled. At the conclusion of my remarks an elderly man got up to speak. The chairman told me he was the largest egg and butter buyer in the market, so that criticism and opposition might be anticipated. What he said was to the effect that he had attended, thinking that the proposed Co-operative Society might be antagonistic to his interests, but, whilst that probably would be true, he desired to say that all the speaker had stated as to the evils of paying all-round prices for good, bad, and indifferent supplies was perfectly correct, and to that extent he was in complete accord. The previous market day he had purchased upwards of 9,000 eggs in the town, *of which not more than thirty-five per cent. could be sold as new-laid*. Of the rest, a fair proportion were scarcely fit for food. As a consequence he was compelled to pay prices sufficiently low to enable him to make a profit. Further, that both in respect to butter and eggs, he frequently felt ashamed at the returns made to his best sup-

pliers, as these were much below the real values, but he dared not make any difference between one and the other, for, if such became known, he would be compelled to advance all alike, and thus lose heavily, or his trade would be gone. As a consequence, he recognised that the present system was indefensible, penalising the careful and scrupulous for the benefit of the negligent and careless.

Such instances might be duplicated all over the country, and in other lands as well. These explain why many traders have favoured foreign supplies, which, whilst not equal in quality to the best home eggs, have been more reliable. Only recently I came across a case in which a big buyer in a northern town refused positively to purchase local eggs, for the simple reason that they were not only uncertain in quantity but also in quality. His trade is a high-class one, and if he bought a thousand eggs he did not want half or more to fail in the essential values, to be sold as cookers. Hence, he preferred to buy either from other sections of the country or the better grades of foreign. It may be, and is, true that in this respect a marked improvement has taken place

within recent years; but, none the less, it is a fact that similar conditions to those named prevail to an enormous extent. The great majority of traders have utterly failed to exert their vast influence for enhancing the standard of home eggs, in some cases by reason of the disappointments which have marked previous efforts and the firm belief that the British farmer and local trader cannot be trusted.

In spite of all that has already been done to improve methods of production and marketing, within the last few weeks I have come across instances which show the utter want of realisation of what should be common knowledge as to the value of eggs. Holding and mixing yet prevail to a degree which would surprise many if they knew the facts. The resultant lack of

as size and number, they could compel producers to respond, and the entire trade could be revolutionised in a very short time. As things are, the last-named frequently have no encouragement or incentive to the adoption of methods in conformity with modern requirements, in that they are, as a rule, unless they have a private trade, paid the same for eggs large and small, fresh and stale, clean and dirty. Under such conditions the expenditure of time and labour in maintaining a high standard is practically wasted. We may preach as we like in material things that virtue is its own reward, but, in the main, it will be to deaf ears and hardened hearts. The only way to accomplish the end in view is to make virtue the more profitable and the absence thereof an actual loss.



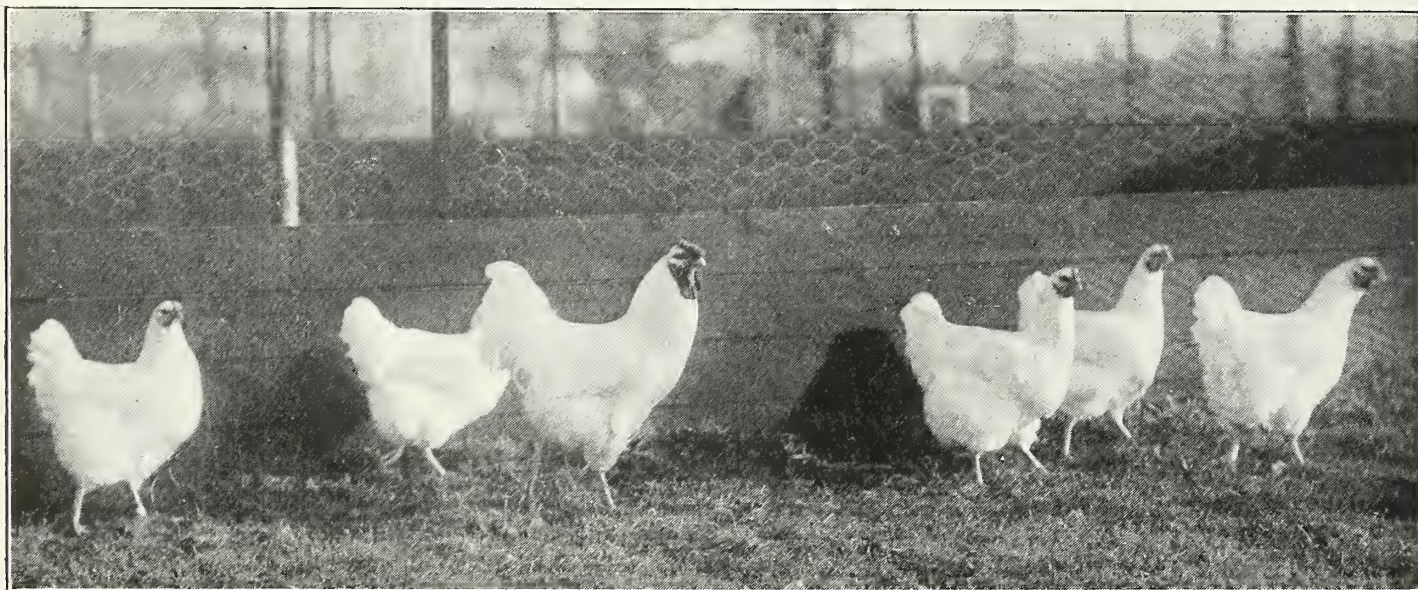
DUCK-REARING AT STREET BY MR. HEDGES, OF THE WELL-KNOWN FAMILY THAT INTRODUCED THE AYLESBURY DUCK. Notice the excellent sheltering divisions, made of stone slabs dug up from the Lias subsoil. *[Copyright.]*

confidence is painful in the extreme. The consumer distrusts the retailer, the retailer doubts the wholesaler, the wholesale dealer has no faith in the local buyer, and the last-named knows that the producer will unblushingly sell him eggs as new-laid or fresh which saw the light of day weeks before. Each one of those named buys at a price which will protect him against loss. The producer is the one to suffer, and, so far as he is responsible, rightly so. Until those who are the bedrock of the entire business take measures for their own protection they must be the losers. At the same time, if the buyers would universally adopt the system of purchasing by quality as well

In this direction the main influence will be effected by throwing a greater share of responsibility than at present exists upon producers. Not that the other partners in the business should escape their share. So long, however, as poultry-keepers do not realise that they will be paid according to quality as well as the size of eggs supplied by them, they will continue to disregard what are essential factors in placing upon the markets eggs of the finest class, and thus a vast amount of money will be lost to them. It is difficult to make an estimate as to the difference in values of eggs sold now and what they might realise, but I do not think

it an exaggeration to state that at least £2,000,000 is annually sacrificed by the poultry-keepers of the United Kingdom in this way. At present-day prices for the better grade of eggs there can be no question that the production of this article of food is profitable. Many farmers and others, however, fail to find it so to the extent which might be the case owing to their careless and inefficient ways of dealing with the eggs, every one of which is new-laid when voided by the hen. It is the after treatment for which deterioration is responsible, with consequent loss of value. To retain these for days, perhaps weeks, and to keep them under conditions which destroy their freshness, is foolish in the extreme. We might have expected that such would have been self-evident, and can only blame the system of all-round prices for such a loss as arises. It is full time, therefore, that those concerned, producers and traders

and undersized eggs which give the most trouble and cause loss. Many examples could be given as to the improvement secured by the introduction of a depot, but one will suffice. I recently visited a district where formerly the supplies were so unsatisfactory that good traders declined to have them if they knew the origin, and, as a consequence, prices were very low. Considerable difficulty was experienced at first. The plan was adopted, however, of inviting the farmers to see their own eggs tested, as a result of which they speedily realised what was required, and as they were paid strictly in accordance with values, all bad eggs being returned to them, during recent months more than 90 per cent. of the supplies have passed the first grade test, which has made a large accession to the prices obtained. It is very unfortunate that some Co-operative Egg Societies do not apply this system. They appear



A BREEDING-PEN OF WHITE WYANDOTTES BELONGING TO MRS. TREVOR-WILLIAMS.

alike, should be brought to understand what is involved, and be led to adopt methods which are of supreme importance. The progress made in various directions offers examples of the benefits which follow improvement in respect to marketing as well as production.

One of the great advantages which have followed the application of co-operation in rural districts to the egg trade is that responsibility is laid upon the shoulders of those who are the immediate losers, and who are thus able to take measures in their own interests. They are educated through their pockets. It is to the advantage of every collecting depot to secure as high a standard of quality as possible. The smaller the proportion of bad or stale eggs, and the greater the average of first quality eggs brought in, the better the returns will be. It is the seconds

to regard quantity as everything, and are afraid lest the producers be offended, forgetting that rapidity of development may be least profitable, and that without maintenance of a high standard they can only attain partial success. One of the dangers at the present time is a bastard co-operation, either in that it is in no way superior to ordinary trade methods or that by not insisting upon producers from whom the eggs are received becoming actual shareholders what are the essential principles are violated. It is not co-operation merely to set up another form of higgling. Where properly applied this system makes for the education of all concerned, and can scarcely fail to yield satisfactory results. That will not be secured, however, unless producers are made to feel their individual responsibility by having an actual stake in the enterprise.

Valuable though Co-operation is in connection with the sale of eggs and poultry, mainly, however, as a competitive factor, up to the present time it has but touched an infinitesimal part of the trade. Probably the sales of Co-operative Societies of these two products in Great Britain does not at present exceed £50,000 per annum. My estimate is that the total production is nearly £9,000,000 in the twelve months, so that the former is a mere flea-bite, merely representing a fraction over 11s. in every £100 of the yearly trade done in these forms of produce. That is a very small proportion, but it is a beginning. If Co-operation were alone to be measured by the extent of its business it could be ignored by traders. The influence, however, is immeasurably greater. The mere threat of such a system has in many cases speeded up traders, who have done through fear what they refused to do from any other influence, and has led to considerable advances in methods and returns. A further fact that must always be kept in mind is that there are few counties which supply their own demand for eggs and poultry, and that the area of consumption is nearby, so that sale of produce either to retailers or direct to consumers is comparatively simple, under which conditions there is no opportunity for Co-operative Collecting Societies, and experience has shown that it is difficult to make these financially successful. We have had to learn by painful experience and bitter disappointments that in the neighbourhood of residential, commercial, or manufacturing districts there is not the same opportunity as in the more remote agricultural areas.

Under the conditions here referred to, and, in fact, all over the country, it is important that traders, whether local or in the consuming centres, shall do their share in advancing the standard of quality. That will only be by purchasing in accordance with the true value, and abandoning the system of taking all the supplies offered, paying an all-round price, and testing out at a later stage. Cheap eggs are no good to anyone. They do not pay the farmer; the local trader thinks them of so small value that rain, or exposure, or bad packing will not do them any injury; and the sale is mainly to low-class retailers. So soon as it is recognised by one and all that the quality is there to lose, and such loss entails a serious reduction of value, one and all may be expected to adopt methods which are essential to satisfactory marketing. With a proper system confidence will be regained and a vast impetus given to home production. It is necessary, however, to refer to what is a serious menace—namely, the lack of supplies in winter. That can be to a larger extent overcome by producers, if they set themselves to the task. In some districts the April output is twenty to one in November. Such ex-

plains the failure of some local depots, in which respect traders who deal in other products have a great advantage, and also why retailers depend so largely upon foreign supplies. We look to educational authorities to teach methods of production which will make the production more equal.

It is evident from what has already been stated that between the passing of the egg from producer to consumer it must be tested for quality—that is, if the system here advocated is adopted. Of such tests there may be one or more. No first-class trader thinks of selling home eggs untested until, and unless, he has secured an absolutely reliable and regular supply, one in which he has the fullest confidence. He may sell Dutch or Danish or French without candling, but knows full well that, as a rule, to dispose of home supplies without careful test would be injurious in the extreme to his business. In this respect a fair amount of improvement has taken place. The point which I wish to make is that the test should be as near the point of production as possible, and not by the final retailer, otherwise the educational value is largely lost, as are the opportunities of influencing producers to adopt better methods. The last-named may, if they think fit, test for themselves, so as to grade out for home consumption those which are a little below the market standard, and which will be better if eaten in his household than they can possibly be when their ultimate destination is reached; but, as a rule, it is much better for this to be carried out by the local depot or trader, in order that the price paid shall be in accordance with both size and quality. So long as these traders pay an all-round price will the present unsatisfactory condition of affairs continue. It is with the view of compelling greater care and more rapid marketing, which are essential to the maintenance of a high standard of freshness, that the system here named is advocated. When farmers learn that a week-old egg is 15 to 20 per cent. less in actual value than an egg two or three days old, and receive for the latter more than for the former, they will assuredly seek to obtain those added returns. That cannot be accomplished unless testing takes place in the immediate locality. Moreover, by so doing demonstration can be given which has never failed to convince producers that what is here stated is correct.

In Denmark, and to a lesser extent in Ireland, eggs are purchased by Co-operative Societies in accordance with the weight. That system is perfectly sound in principle and fair to all concerned. It is manifestly unjust that those whose eggs scale at nine to the pound should receive the same price as others whose eggs weigh seven and a half or eight to the pound, by reason of the fact that the rates obtainable for the former are much

less than what is represented by the margin of actual weight. At the same time, however, purchase by weight is not enough, though size must not be ignored. Before that is the question of quality and freshness. In the article on "The Standardisation of Eggs," which appeared more than a year ago (Vol. III., p. 105, December, 1910), I endeavoured to show what has to be looked for in a new-laid egg, and desire again to emphasise the importance of studying the contents of as well as the shell. My own feeling is that we had better in the first place concentrate our main efforts in the direction of improving the quality of supplies by educating producers to the adoption of better methods, of course regarding market requirements in respect to weight, and not until that has been accomplished in large measure introduce the system of purchase by weight. Then the last-named will be the plan to be advocated. At the same time, it may be acknowledged that there is not the same need to grade

as closely in this country as in Ireland, Denmark, &c., so long as eggs do not fall below the 2oz. standard. To ensure safety in transit when packed in the long non-section cases, grading must be carried out very closely indeed. Our system of packing does not require that to be done to the same degree.

Without the keeping of another hen, or the production of any more eggs than at present, the returns for home supplies could be sensibly increased were the methods adopted more conducive to the maintenance of a higher standard of quality. All concerned, Co-operative Societies and traders alike, must, in order to secure so desirable a result, prove to producers the cash value of a better system and that eggs are a perishable product. The one method of doing so is to buy in accordance with actual values, thus rewarding in money the trouble and care involved, and abandon once for all the antiquated and evil practice of all-round prices.

THE POULTRY FANCY FORTY YEARS AGO.

By PROFESSOR JAMES LONG.

[*This is the second instalment of Professor Long's interesting reminiscences. The previous article appeared in the January issue.—Ed. I.P.R.*]

WHEN last writing on the Poultry Fancy of forty years ago I made special reference to the champion exhibitor of the time, Henry Beldon. Although Mr. Beldon's particular fancy and forte was the Hamburgh, which he showed in all the five varieties of that time—for they were then restricted to the Silver and Gold Pencilled and Spangled and the Blacks—he was a most successful exhibitor of Polish—both Gold and Silver Laced—and occasionally of white-crested Blacks. At the Paris Exhibition of 1878, where we travelled together, Mr. Beldon purchased some Chamois Polish which he exhibited with some degree of success, but they never became very popular. He did not, however, restrict himself to these varieties, but frequently exhibited Black and White Rose-combed Bantams, Sultans, Spanish, and sometimes breeds of other kinds which he often purchased at the various shows he attended, especially in the selling classes, which frequently contained some very fine specimens which were priced at 30s. Birds of the larger breeds, including the Dorkings, Brahmas, and Cochins, he seldom touched, although at small local shows, where he exhibited in great force, he sometimes made a point of sending a few pens.

I have already referred to my first acquaintance with Lewis Wright, the author of the now-famous "Book of Poultry." Although there were no

poultry papers at the time, the short articles written by Mr. Wright in the *Journal of Horticulture* were the best of their kind. He had no rival. He not only possessed a great literary gift, but a knowledge of the habits of poultry which was perhaps exceeded by no other man, and although his writings were sometimes the subject of a good deal of merriment to professional exhibitors who met together at the various shows, they appealed to the educated classes who were interested in poultry culture and obtained the form of recognition which was reached by no other poultry writer of the time. Mr. Wright had the misfortune to be slightly deaf; indeed, I believe that this deafness was the indirect cause of his death, and partly in consequence of this his manner was somewhat abrupt; but no man possessed a higher sense of justice, and he fought for many years with great vigour for that form of righteousness which did not at that time permeate the rank and file of exhibitors. He was a man of high character, but very sensitive to criticism, and I am afraid that it was owing to a published critique of my own that our acquaintance developed so slowly.

When Cassells established the *Live Stock Journal*—which at the time was practically confined to poultry—Mr. Wright, who was a member of their staff, was appointed editor, and, in spite



A JUBILEE ORPINGTON.
A Celebrated Winner, the Property of Mr. Walter Buxton.

[Copyright.]

of opposition which was created by a certain section of the poultry-breeding public, he conducted the paper on strictly righteous lines. Mr. Wright was a man of great sincerity, and he lived a noble life. He devoted a great deal of his time to a branch of science in which he excelled, but his reputation will remain as that of a great authority on poultry, his ponderous work to which I have referred being a standing monument to his name. He was the greatest authority of the time on the Brahma, and his first work was a monograph on "The Brahma Fowl." Many persons regarded his devotion to this breed as a fad and ridiculed his powers of breeding; nevertheless, he lived to win the chief prize at the Crystal Palace, and in consequence to confirm a reputation which he had already made by his pen.

Having referred to the Brahma, it may be well to point out that the one man who stood alone as the foremost Brahma breeder of his time was Horace Lingwood, of Needham Market, in Suffolk. Mr. Lingwood created a reputation which has never been excelled—possibly never approached—by a breeder of any other variety of poultry. He obtained a good strain at an early date and had a knack of breeding birds of extremely large size, which, I believe, was owing to his employment of bone-meal, which he used with great freedom. Wherever Mr. Lingwood's team appeared—and he subsequently added the Light Brahma to the Dark—he almost invariably won the highest prizes, although he was occasionally beaten by exhibitors who had purchased from himself. I once went down to Needham Market to have a look at Mr. Lingwood's poultry-yard, and, as I knew him very well, I was much impressed by his thoroughness, his energy, and his straightforward and highly moral character. No breath of suspicion ever attached to any one of his exhibits; he sent them to the shows just as they were without the least attempt to improve them artificially, and he had his reward. Mr. Lingwood's Brahmas were remarkable not only for their size, but for their form and colour, which bore no trace of that yellow tinge which has spoiled so many Brahma fowls. The cocks possessed short backs, deep breasts, and broad-rising cushions with the famous Blackcock tail; the heads and combs were small and perfect, and the legs and feet well feathered without vulture hocks. During his somewhat lengthy run as the leading Brahma-breeder, Mr. Lingwood's name was one to conjure with, but he was never seen at those various gatherings of poultry fanciers which took place at some hotel on the night previous to a great show. He came and went chatting happily with friends he knew and bearing his many honours with wondrous modesty.

I have frequently noticed that the average individual of to-day has little or no knowledge of the

celebrities of the past, especially of the names of statesmen, actors, singers, and others whose names once filled the public eye. If this is the case with persons of such importance in their day, it must be doubly so in the case of the poultry fancier who, like the plant of the field which has been cut down by the scythe of Time, is known no more; the wind passes over it and it is gone. Nevertheless, there are still those who remember directly or indirectly such men as Richard Teebay, who for some years was the leading judge of the chief varieties of poultry. I first met Mr. Teebay at an hotel in Birmingham on my first visit to the show at Bingley Hall about 1870. I had recently commenced to breed the Brahma, and, like all who thirst for first-hand knowledge of the breed they take in hand, I was anxious to see the best collection of that time. Having had some correspondence with Mr. Sam Burn, of Whitby, then a famous breeder of Black East Indian Ducks—who had attended the Birmingham Show for twenty-seven successive years—he invited me to stay at the hotel to which I have referred, telling me that Mr. Teebay would be there. Young exhibitors of to-day will readily understand the avidity with which I accepted this invitation in view of my introduction to the great judge. I found, however, on my arrival that Mr. Teebay, although somewhat taciturn and sometimes reticent in this manner, was a man of great simplicity, and one who was very glad to give a helping hand and a word of kind advice to all who came in his way with the desire to learn.

Mr. Teebay was a man of curious presence—tall, standing about 6ft. 1in., and erect—he usually wore a round felt hat—at that time called a billycock—an old-fashioned collar and neckcloth, and a pair of huge spectacles. He had a kindly expression, but as his age was then some sixty-five years, he was grey and wrinkled, although apparently tough in constitution—indeed, he must have been, for no man travelled more frequently to judge poultry shows or slept so little in his bed at home. One of the great drawbacks which a popular judge has to encounter is frequent travelling and the discomforts attaching to those changes of food and bed which some men cannot stand, especially when they reach the age of Richard Teebay and two or three of his contemporaries—notably Mr. Dixon, of Bradford, and Mr. Hewitt, of Birmingham, both of whom were old men and in great demand by poultry show committees. Mr. Teebay seldom made mistakes, but he was invariably willing to accompany an exhibitor to a class in which he was interested and to explain to him the difference between the winner and his own defeated bird. I was enabled, after very frequently meeting Mr. Teebay, to learn a great deal about those varieties which I bred and exhibited for some years, and which received many

awards at his hands. I cannot speak with certainty on the question, but I believe that Mr. Teebay was the first among breeders of the Dark Brahma to produce a definite pencilling on the feather. The earliest birds of which I have any recollection were not pencilled, although there were traces of the form of marking which ultimately became so prominent. The feathers were mossed, resembling, to some extent, the body plumage of the Silver-grey Dorking, although the marking was coarser. In any case, it was Mr. Teebay who showed distinct preference in the show-pens for those birds which exhibited

some traces of pencilling. About that time Mr. Ansdell, then a very well-known and successful exhibitor living in Lancashire, frequently took the first place with pencilled hens at the larger shows. The birds exhibited by this gentleman were among the first which were distinctly pencilled on the breast and on other parts of the body, although it was not until long afterwards that the whole plumage was pencilled. The large proportion of the Dark Brahmas at the time were imperfect in colour; instead of being the steel-grey which Mr. Teebay preferred, they were of a brownish-grey, distinct traces of brown being frequently noticed.

THE INVISIBLE CHICKEN. THE WONDERS OF EGG-GROWTH.

NO. I.—THE BEGINNING OF THE GERM.

WRITTEN AND ILLUSTRATED BY JAMES SCOTT.



HAT can be more wonderful than the fact that a hen's egg can be changed within the comparatively short time of three weeks into a pretty feathered chick, full of life and activity, and capable of walking about, feeding itself, and chirping meantime? I propose to produce a novel set of illustrations, drawn by myself direct from nature, ranging from the very commencement of this attractive process of development, and ending with the final hatching.

If the ovary, or egg-chamber, of a laying fowl be examined there will be found bunches of small, yellow objects clustered together somewhat like grapes. These are the future yolks, and each is practically an enlarged germinal cell, though, as I shall show, it contains vital details. As the yolk rolls along the oviduct, or channel which conveys the egg to the nest, it gets bathed in layers of albumen—i.e., white—secreted by the parts, and is still further coated with a paste consisting of tiny lime granules, which stick together to form the shell.

During the passage of the yolk through the albumen some of the latter gets twisted at each end of the egg, so as to compose the dense, white strings incorrectly called the tread. These semi-opaque, china-white objects are called *chalazæ*, from their crude mimicry of small hailstones or beads. Their purpose is to maintain the equilibrium of the yolk, which would otherwise frequently rise or fall irregularly, and get broken and stuck against the inner side of the shell. The narrow extremities of these cords are connected, as a rule, with specialised portions of the interior. As the egg rolls about it is the effort of the cords

to keep a certain part of the buoyant yolk always upwards. Reference will soon be made to this delicate spot, which needs so much care.

As the yolk area gets heavier owing to the concentration of the chick therein, it would sink entirely to the bottom, but the inversion of the egg enables the *chalazæ* to support it, as a ham-



Fig. 1.—Section of a hen's egg. At the left side is the air-space. The yolk carries concentric layers of albumen, or "white," which also exists in the centre, and extends upward to the BLASTODERM (seen edgewise), above which is the cicatricula, or genuine tread. The yolk is held in position by a pair of chalazæ.

[Copyright.]

mock is suspended by its ends. The point to bear in mind is that it is necessary for the *blastoderm* (described hereafter) and the embryo into which it is converted persistently to remain uppermost in order to be in direct line with the warmth proceeding from the hen. These details may be seen in Fig. 1.

At the broad end of the egg its two linings—which are so closely joined elsewhere as to resemble *one* membrane—are separated, and between them the space is called the air chamber. While the egg is maturing the cavity just mentioned becomes gradually larger, until a quarter, or thereabouts, of the inside area is occupied by

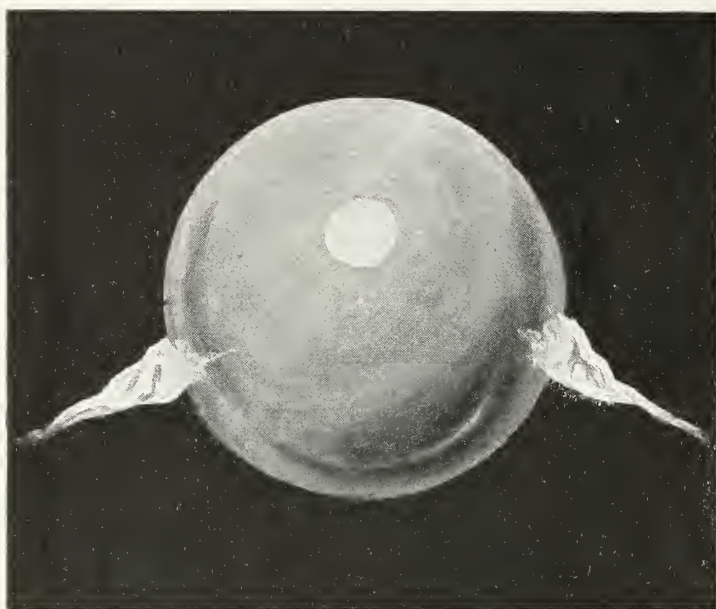


Fig. 2.—The yolk and connections of a hen's egg detached. On the top is the BLASTODERM, or germinal disc, from which the chicken grows. The disc consists of two layers of cells which contain the developing germ. Some of it is shown in Fig. 4. [Copyright.]

oxygen for the purpose of allowing the forming chick to respire. The air also passes through hosts of invisibly minute pores, which penetrate the shell.

Now, let the reader carefully crack a raw egg, and drop the contents into a saucer. If he does not see a small, almost transparent white disc on top of the yolk it will be necessary to gently turn the latter over with the aid of a spoon. I admit it is a tender job, but it can be done with patience. There should be visible a small, whitish circle, similar to that shown in Fig. 2. This is called the *blastoderm*, and it will be advisable to remember the name, as many references will be made to it.

In a fertile egg there will exist the *cicatricula*, or genuine, tread, which is small in comparison with the *chalazæ* cords. This upper central part of the fertile *blastoderm* is the contribution containing the *spermatozoa* of the male bird.

The yolk on which the *blastoderm* rests is practically an enlarged female cell, distended with albumen and yellow oil. So that, in comparison, the male cell—as a *spermatozoon* is called—is incredibly disproportionate. The one is millions of times larger than the other.

We must now revert to the yolk as it exists in

the ovary. In the part destined to become the *blastoderm*, or disc, occurs a tiny germinal vesicle, or bladder, containing a small germinal spot. The latter frees itself, and thereafter the vesicle disappears. Then, while the egg is on its way to the nest, and in contact with the albumen and lime coatings, the spot divides into two portions; these split into four, the four multiply into eight, the eight into sixteen, the sixteen into thirty-two, and so forth. Each minute-cell, as it really is, halves so as to form the successive ones, and when all have done multiplying they collectively comprise the *blastoderm*, or germinal disc to be seen in the middle of Fig. 2.

In the infertile egg this *blastoderm* does not possess any further activity; but if the egg has been charged with the male element, the *blastoderm* commences to operate, in a suitable temperature, in a most peculiar manner, which will be fully described in subsequent chapters.

The *spermatozoa* of the male bird are absolutely invisible, even when magnified to the extent of several thousands of times. Each is like a tiny animalcule, in so far that it can swim in fluid matter. It has a remarkable "head," and a long "tail," by means of which it obtains its locomotive powers. This filament, which is finally cast off, is lashed to and fro, and enables



Fig. 3—Enormously magnified SPERMATOZOA of a drake without which a duck's egg would not develop. [Copyright.]

one of the *spermatozoa* to find the germinal spot, with which it co-operates in producing the chick. It is believed that the energy is concentrated in what is called the middle piece, existing between the "tail" and the "head." In Fig. 3 I illus-

trate some of these strange things belonging to a duck—or, rather, a drake.

It becomes advisable now to study the various portions of an egg; and I will refer the reader to Fig. 1. Although the yolk and white appear very distinct from each other, they are intermixed to a great degree. Indeed, both yellow and white yolk exist in the same egg. The yolk is really an oil, and under the microscope is found to consist of amalgamated tiny globules. They are held together in a spherical mass by the thin outer membrane, around which is the vitelline layer.

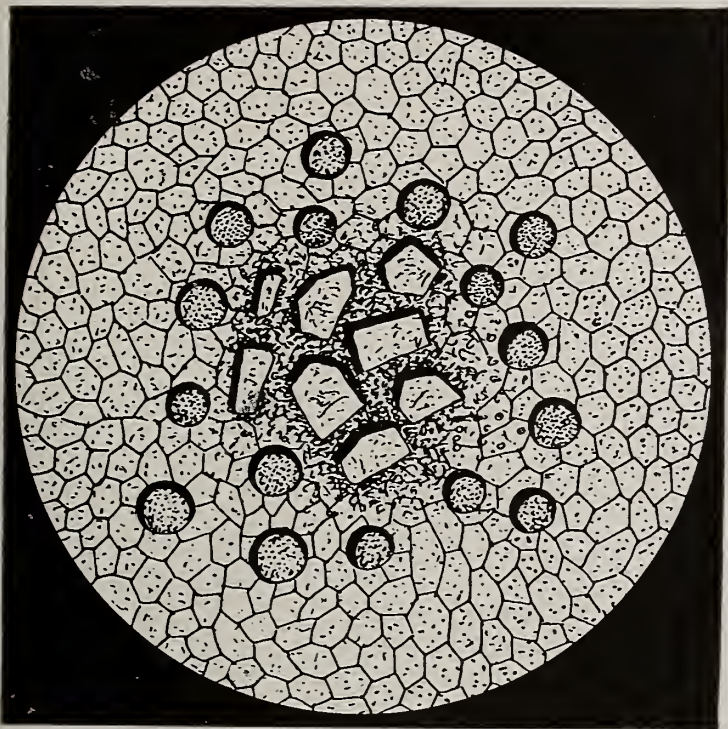


Fig. 4.—A magnified pinhole showing a portion of the BLASTODERM, or germ disc, of a yolk (this is the cellular mesh) along with some adherent globules of yellow yolk and crystals of vitelline. [Copyright

Besides concentric nets or sheaths of white in the interior of the yolk, the centre of the latter is occupied by a bead and shaft of the same substance. Actually, this nitrogenous fluid passes in between the globules of yolk oil, but in such minute streams as to be invisible to the naked eye.

If we press a little of the yolk's outer membrane and adjacent substance between two glass slides, moving these gently to and fro, there will soon appear white, semi-crystalline particles of vitelline, which is always associated with these parts, and undoubtedly furnishes the embryo with valuable sustenance. See Fig. 4.

In later remarks I shall explain how the young chick develops by degrees from the *blastoderm*, and absorbs the yolk and albumen. It is quite a popular pastime among poultry-keepers to discuss which portion is the chicken, the yolk or the white. To settle such disputes it is advisable to

state that neither for one nor the other can a claim be made in this respect. Really, the chicken may be said to be the *blastoderm*, which by thrusting out processes like veins and arteries gradually utilises both the white and the yolk as food. The white, or albumen, being nitrogenous, may be said to furnish the material out of which muscle and flesh are henceforth made; while the yolk lubricates the developing parts and provides the chief component of the brain and nervous system, and therefore the vitality.

We must remember that the birth of a chicken is different from that of a baby. There is no milk for the young bird, and, moreover, it must be able to walk, chirp, and look after itself to a very great extent. It is in reality born old, as old comparatively as a baby that is weaned at the age of nine months.

No one needs telling that a newly-hatched chicken is possessed of much intelligence, and this is undoubtedly engendered by the rich and liberal store of lecithin—a phosphorised substance stored in the yolk. Under the microscope we can see the globules of yolk gradually yielding up their contents, and accepting constituents from the albuminous surroundings. While the cells are multiplying they absorb the available fluids, and so are enabled to multiply.

I shall have something more to say on these phases, when I reach the description of the internal modifications of an egg.

Where White Leghorns Predominate.

Writing in the *American Poultry World*, Mr. J. H. Drevenstedt says that "California is the Leghorn State, and it is safe to say that 75 per cent. of the poultry in that State are Leghorns. In and about Petaluma 98 per cent. are Leghorns, and Petaluma is the greatest chicken city in the United States. In fact, there is no other business but chickens and poultry supplies in the whole town of 8,000 inhabitants, and I believe there are 3,000,000 Leghorns within a radius of twenty miles."

Mr. A. F. Hunter.

We recently recorded the retirement of Mr. Hunter from the editorship of *Profitable Poultry*, and are glad to see that he has been appointed an Associate Editor of the *Reliable Poultry Journal*, to which journal he will be a great acquisition. He will take charge of the practical department.

Decline in Turkey Raising.

It is stated that the decrease in the number of turkeys raised in the Eastern States of America in two years is no less than two million birds, equal to a decline of 25 per cent., which is a very serious question if this bird is to hold its position. California is said to be fast becoming the great turkey State, for there they are bred on ranches, as formerly were sheep and cattle.

ON THE ACCURACY OF TRAP-NEST RECORDS *

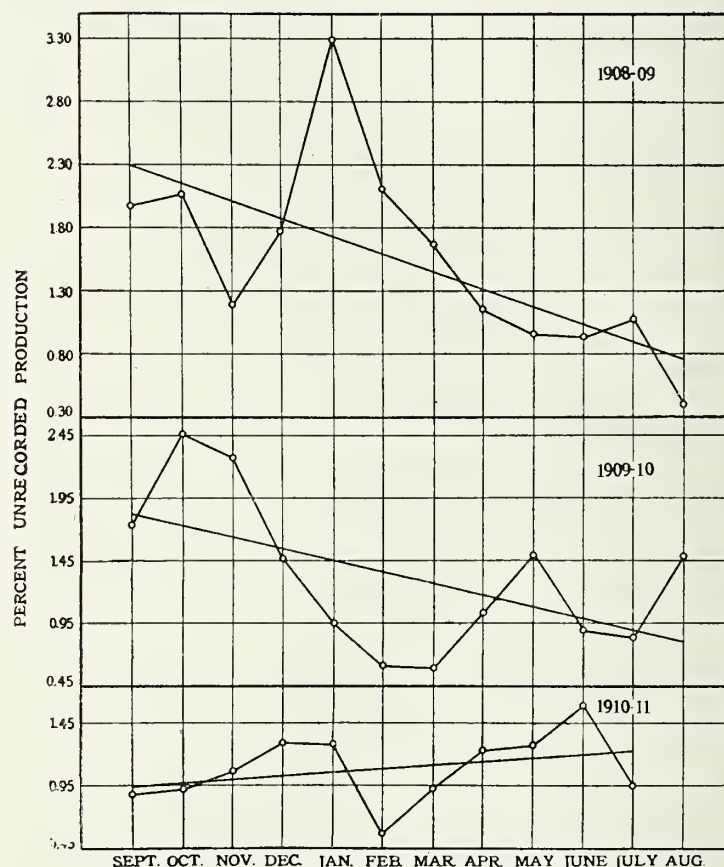
By DR. RAYMOND PEARL.

ALL experimental studies of any magnitude on fecundity in the domestic fowl must rest ultimately upon trap-nest records. In spite of the fact that so much trap-nesting work has been done in the various Experiment Stations there has never been any careful study, so far as the writer is aware, of what may be called the *residual error* of trap-nest records. By "residual error" is meant that error which remains after all instrumental sources of error, such as, for example, failure of a nest to operate owing to its being out of repair, have been eliminated. It will always be the case that some birds will at some time lay outside the trap-nest. The important point to anyone concerned in the accuracy of the records relates to the amount of this error. It is proposed here to present some data collected at the Station regarding this matter. Prior to the fall of 1908, what was known as the Maine Station type of trap-nest was in use over the whole part. A very slight study of the matter convinced one that the instrumental error involved in the use of this nest was too large, both absolutely and relatively. This resulted from several factors, but the following defects were most serious. (1) The hens would lay in the front compartment of the nest and not get trapped. (2) The door would fail to lock when the nest was sprung, and thus while the hen inside could not get out, another one (or more) could get inside. (3) In general the nests very easily got out of repair, and then failed to work properly. While in theory it ought to be easy to repair immediately all such nests, in practice it was impossible to prevent there being constantly on the plant a few nests not working properly and needing repairs.

It was believed that with a more efficient trap-nest the number of unrecorded eggs could be reduced. Accordingly a new trap-nest was devised. This has been described elsewhere. These nests were installed in the fall of 1908, so that the pullets put into the house that year had nests of the new pattern. Since the writer took charge of the work an accurate, permanent record has been kept of all eggs laid elsewhere than in a trap (i.e., in such a way as to make it possible to know the hen which laid the egg). Because records of this kind were not preserved prior to the month of January, 1908, the only period for which figures are available regarding the accuracy of the

old type of nest as compared with the new is from January to June, 1908.

The following table gives the data from January, 1908, to the present (August, 1911), regarding the accuracy of the trap-nests in use on the Station plant. The figures given include *all* eggs laid on the plant regardless of what experiments the birds were in. The number of birds on the plant varied from time to time, so that the



Diagrams showing the trend of the relative (percentage) amount of unrecorded eggs during the successive months of the laying year, for the laying years 1908-9, 1909-10 1910-11.

totals in this table are not to be used as an index of the laying of the stock. For example, it will be noted that whereas in July, 1909, 6,106 eggs were obtained, in the following month there were only 504. This might be taken to indicate a tremendous drop in the rate of fecundity of the birds, but actually it merely means that on August 1, 1909, the houses were cleaned out and all the laying birds were sold except a small number kept over for breeding purposes. In this table the column headed "Nest Eggs" gives the

* Reprinted from the Annual Report of the Maine Agricultural Experiment Station, Orono, U.S.A

number of eggs laid in the trap-nests in such way that the bird which laid each of these eggs was known. The column headed "Unrecorded Eggs" gives the number of eggs laid on the floor of the pen or in some other situation, so that it was not possible to know the individual hen which laid each egg.

In order that the data set forth in this table may be more readily comprehended, the diagram on previous page has been prepared. In this diagram the trend of the percentage figures during the last three years is shown. The zigzag line in each case represents the observations. The straight lines are fitted to these observation lines by the method of least squares. The equations to these lines are as follows: y denoting "percentage of unrecorded eggs—the nest-eggs," and x denoting months, the origin of x being taken as one month before the first observation of the laying year—viz., that for September:

$$1908-09 \dots\dots\dots y = 2.44 - .14x$$

$$1909-10 \dots\dots\dots y = 1.93 - .094x$$

$$1910-11 \dots\dots\dots y = 0.92 + .029x$$

This table and the diagrams show that:

(1) The residual error was more than three times as great with the old type of trap-nest as it is with the new. Taking the three laying years, 1908-09, 1909-10, and 1910-11 together, the grand totals are: 151,355 nest eggs and 1,881 unrecorded eggs; giving a percentage of 1.24 unrecorded eggs. We then have the ratio of efficiency of old nest to new:

$$\frac{\text{Old trap-nest } 4.01}{\text{New trap-nest } 1.24} = 3.23$$

(2) The relative amount of unrecorded egg production is not closely related to the total egg

production. This is indicated by the fact that the curves of unrecorded eggs by months do not at all parallel the familiar curve of the seasonal or monthly distribution of egg production. The absolute number of unrecorded eggs tends to increase as the nest-eggs increase, and diminish as the latter diminishes. But there is no indication whatever in the figures that *proportionately* more eggs are unrecorded when the laying is heavy than when it is light, and *vice-versâ*.

(3) There is plainly in the years 1908-09, and 1909-10 a tendency for the unrecorded production to diminish relatively as time elapses from the beginning of the laying year. That is to say, the longer the same individual birds use the trap-nests, the smaller becomes the production of unrecorded eggs. This suggests what is actually the fact, that there is an element of learning in the operation of trap-nests, looked at from the standpoint of the bird. In a lot of several hundred pullets put into the *laying* house in the fall there will always be a few who have to be *taught* to use trap-nests, or, for that matter, any kind of a nest. Usually such birds learn fairly rapidly to lay in nests. There are occasional lapses, but the number of these tends to become smaller the longer the bird has used a nest. It is on this account that the relative proportion of unrecorded eggs tends to diminish during the course of the laying year.

(4) The year 1910-11 seems to furnish a contradiction to the statements made in (3). In that year the proportionate number of unrecorded eggs was actually greater towards the end of the laying year than at the beginning, though the amount of the change was so small as not to be significant. Practically the line is horizontal. It is not pos-

TABLE I.—Showing the Residual Error of Trap-Nest Operations from January, 1908, to July, 1911.

MONTH.	1907-8.			1908-9.			1909-10.			1910-11.		
	Nest eggs.	Unrecorded eggs.	Per cent. unrecorded to nest.	Nest eggs.	Unrecorded eggs.	Per cent. unrecorded to nest.	Nest eggs.	Unrecorded eggs.	Per cent. unrecorded to nest.	Nest eggs.	Unrecorded eggs.	Per cent. unrecorded to nest.
September	—	—	—	742	15	1.98	677	12	1.74	1,685	15	0.88
October.....	—	—	—	945	20	2.07	1,217	3	2.46	2,796	26	0.92
November	—	—	—	1,067	13	1.20	1,243	29	2.27	2,771	30	1.07
December.....	—	—	—	2,587	46	1.78	3,622	54	1.47	3,146	41	1.29
January.....	5,172	189	3.52	4,896	167	3.30	4,471	43	0.95	3,854	50	1.27
February	6,946	277	3.83	5,145	111	2.11	3,601	22	0.61	5,713	33	0.57
March	13,111	561	4.10	7,938	136	1.68	5,921	35	0.59	9,408	88	0.93
April	12,474	510	3.92	7,721	91	1.16	6,130	64	1.03	8,898	109	1.22
May	11,757	504	4.11	7,155	69	0.96	4,883	74	1.49	8,136	104	1.27
June	8,914	395	4.24	6,200	59	0.94	4,009	36	0.89	6,424	102	1.59
July	—	—	—	6,040	66	1.08	4,061	34	0.83	6,221	59	0.95
August	—	—	—	502	2	0.40	1,530	23	1.48	—	—	—
Totals and means ...	58,374	2,436	4.01	50,938	795	1.53	41,365	429	1.03	59,052	657	1.11

sible to state positively all the factors which are concerned in the failure of the unrecorded eggs to diminish during the year 1910-11.

Direct observation indicates, however, that the chief cause of the relatively high amount of unrecorded production towards the end of this year (April, May, and June) is to be found in the behaviour of certain cross-bred birds with respect to broodiness. A number of these birds would show all the symptoms of a severe attack of broodiness, yet after being put into the broody coops to be "broken up" would continue to lay regularly on the floor of the coop. This happened so many times as to leave no doubt as to the fact, nor to the relatively frequent occurrence of this type of behaviour among the cross-bred birds. Owing to its unexpectedness we were not prepared this year to keep any exact records respecting the phenomenon. To do this involves penning each broody bird alone. Next year it is proposed to do this, and thus get precise records on a matter regarding which we have so far only general observations. From the evidence now in hand it seems probable that what we have here is an effect of the separate Mendelian segregation of "broodiness" and "fecundity." In the case of these F_2 birds of the peculiar behaviour described we apparently have individuals carrying *both* "high fecundity" and "high broodiness" genes. The resulting behaviour is a sort of compromise between the two tendencies. It might be thought that such a result would be a physiological impossibility. This is not so. Paradoxical the result certainly is, but plainly not impossible, since it is actually the case that these birds have every physiological attribute of broodiness and yet lay regularly. In this connection it should further be said that a study of a large mass of unpublished quantitative data on broodiness shows that the physiological correlation between the function of laying and that of brooding is by no means perfect. Perfect "broodiness" may be developed before any egg laying has occurred. Further, as in the present cases, broodiness and egg laying may co-exist over long periods. The writer hopes to be able shortly to publish in full the data on the physiology and inheritance of broodiness which have accumulated during the past four years.

DISCUSSION.

From the figures given on previous page it appears that, on the average, during the past years, there has been for every 100 eggs laid on the Station plant only one and a quarter eggs which it was not possible to credit to the individual bird. This probably represents something approaching the irreducible minimum of error in trap-nesting work on any large scale. The reason that it is believed to be substantially irreducible is that further to increase the proportion of recorded eggs would

involve the intelligent co-operation of the hen, a factor not easily controlled. In this $1\frac{1}{4}$ per cent. of unrecorded eggs only a very small fraction (less than 1 per cent.) is chargeable to instrumental errors. It is probably safe to say that no trap-nest (or other piece of machinery) can ever be devised which will effectively meet all situations which will arise. In a very few instances, amounting, as has been said, to less than 1 per cent. of the *unrecorded* (not the total) egg-production, two hens will go precisely together into the trap-nest, or one will sit on the door while another walks in, lays, and walks out again. The new Maine Station nest has, however, reduced the instrumental error practically to nothing.

With no instrumental error, however, there remains some unrecorded egg-production. This arises in the main from the following factors:

1. *Laying on the floor of the house.* This may be due to
 - (a) Instinct to "steal a nest." This can be cured if taken in hand early.
 - (b) Purely physiological inability to hold up the egg longer. This may happen when all the trap-nests are full and a hen wanting to lay cannot get in, or it may happen when an attendant throws out of the nest a bird which has been on the nest for some time, has not yet laid, but is just on the point of doing so. These are purely accidental matters and cannot be entirely controlled though with care they may be largely so.
 - (c) Lack of familiarity with nests. Common in young pullets, which have to be "taught" by direct methods to use nests.
2. *Laying in "broody coops."* This has already been discussed.
3. *Dropping eggs while on roosts.* Eggs are sometimes found on the roost boards in the morning. They indicate a disturbance of the normal laying rhythm.

From the enumeration it is plain that full control of the matter demands intelligence and co-operation on the part of the hen.

It should, of course, be understood that the sources of error here discussed are not the only ones in trap-nesting. They are merely the ones which are *peculiar* to that work. It is always possible to misread a leg band or to set down an incorrect number on the record sheet. Here the skill and experience of the recorder are the important factors. It is believed as a result of studying a great many records and applying many different sorts of checks that in this respect as well as in the other the Maine Experiment Station trap-nest records during the last three years, as made by Mr. Walter Anderson, have attained a minimum of error, which, considering the scale of operations, is humanly not substantially reducible.

THE CHEMISTRY OF POULTRY MANURE.

By WIL BROWN

(Director of the Department of Poultry Husbandry, Holmes Farm, Kilmarnock, N.B.).

WITHOUT going into particulars as to the way in which soil is formed, it is necessary to understand the composition of the earth in which we grow our crops, before it is possible to consider the question of the manurial value of any fertiliser. The greater part of the soil consists of sand and clay, materials that are of no value as plant foods; but there are also other elementary substances present in small quantities, such as nitrogen, phosphoric acid, potash, magnesia, and

is sufficient nitrogen in nearly all soils for twenty-five and fifty crops respectively.

The reason why it is found impossible to crop year after year without the addition of manure on any given area—maintaining, at the same time, the weight and value of the crop—is that all the plant food present is not available. The highly complex nitrogen compounds must be transformed by bacteria into ammonia and nitrates, and the phosphoric acid and potash must be rendered



A GROUP OF WHITE WYANDOTTES, BELONGING TO MR. J. STEPHEN HICKS.

lime, all of which elements are essential to plant growth.

An important point for the agriculturist to bear in mind is the fact that there is a large quantity of plant food present even in the poorest soil, a quantity that is enormously in excess of that required by ordinary crops. In an acre of soil to the depth of nine inches, with one-tenth per cent. of nitrogen—a quantity found in all but the very poorest soils—there is about 2,500lbs. of nitrogen present. Root crops will not take more than 100lbs. of nitrogen per acre and cereals about one half this amount from the soil, therefore there

soluble, hence the plant food in a soil can be classed as available and dormant. It has been shown by soil analyses that there is a considerable uniformity in the proportions of the phosphoric acid, nitrogen, and potash in soils, and it is rare to find any one of the regular constituents missing—namely, soda, lime, magnesia, iron, manganese, chlorine, silica, alumina, and sulphuric acid, in addition to the three mentioned above. The difference in crops is not due, as was once commonly supposed, to a difference in the soils, but it is determined mainly by climate, water supply, temperature, and physical conditions of the soil. The

old belief that different crops depleted the soil of varying constituents is not correct, for we have just shown that the quantity of plant foods present in nearly all soils is considerably in excess of the requirements of any given crop.

We have already pointed out that the three principal plant foods are nitrogen, phosphoric acid, and potash, and, therefore, in considering the value of any manure account only has to be taken of these three constituents. The remaining portion, however indispensable to the constitution of the manure, must be regarded as surplusage.

Again, account must also be taken of the con-

stands to reason that the manurial value must vary greatly with the different foods employed.

Unfortunately for the poultry-keeper no definite particulars are available as to the digestibility of foods when taken into the digestive system of birds, and, therefore, we must rely to a very great extent upon the figures that have been arrived at after a large number of animal experiments have been conducted. Again, the actual proportion of the nitrogen compounds retained in the body is comparatively small—this depends on the age of the animal to a very great extent. For instance, young growing stock or a cow in full milk retains



We are hearing a good deal just now regarding Mammoth Incubators. The above illustration shows one of the largest ever built. It has a capacity of 28,000 duck eggs and 32,000 hens' eggs. *(Copyright.)*

dition of these principal ingredients, for unless available as plant food their value is small.

The fat, fibre, and carbohydrates in a food are useless as manure, for only being compounds of carbon, hydrogen, and oxygen, they are, when digested, resolved into carbon dioxide and water, and even the indigestible portions when they reach the soil cannot feed the plant. The nitrogen, phosphoric acid, and potash in a food are the only valuable constituents, and as foods vary considerably in the proportion in which these three constituents are present, and also as to their digestibility, it

more than an animal that remains stationary in weight, and, moreover, a beast in the later stages of fattening retains very little. We can but believe that the same is true of birds, and for our purpose we take the facts that are known in relation to larger stock to apply more or less equally to fowls. Until a complete series of experiments have been carried out in this direction it is only possible for us to base our conclusions upon these statistics. The experiments carried out at the late College Poultry Farm, Theale, and as published in the March, 1907, issue of the

Journal of the Board of Agriculture, referred to in the September, 1911, issue of the ILLUSTRATED POULTRY RECORD, are instructive as far as they go, but even the authors realise that their work only forms one of the many tests that are necessary before the required particulars are obtained. We desire to point out the lines along which investigation should take place if we are ever to ascertain that information which will help us to a definite knowledge of the subject.

It is impossible to compare exactly poultry manure, as produced on an ordinary farm, or on a specialist farm, with either farm-yard manure or guano, for it differs considerably from both of these fertilisers. We know that various changes take place in the making of dung, and, therefore, it can be assumed that changes take place in stored poultry excreta, but there must be a difference, since, as a general rule, there is an absence of litter in the latter case. To a certain extent poultry manure can be compared with guano, more correctly, perhaps, with the later deposits, but even in this case there is a difference in age, and, therefore, in the quantity of the various plant foods in available form.

The digestibility of the nitrogen compounds in a food has a great effect upon the value of the excreta. The nitrogenous substances in the fæces, since they have resisted the attack of the digestive processes, will be rendered available as plant food very slowly. The nitrogen, however, in the urea will change very rapidly into ammonia, so that it is an extremely active fertiliser. The same applies to the phosphoric acid and the potash, for whatever part of the food is digested is excreted as urea, and is, therefore, available for the plant; that portion in the fæces will only become useful after the lapse of a considerable period of time. It is known that the richer and more concentrated a food is, the greater is the proportion of its nitrogen that is digested. Some foods employed contain upwards of five per cent. of nitrogen, of which about four-fifths to nine-tenths is digested, whereas coarse fodder, such as clover hay chaff, may only contain between one or two per cent., of which only about one half is digested. As a general rule, however, the majority of the foods used for feeding poultry are more or less concentrated, and, therefore, there may not be so very much difference in the percentage of available plant food in the manure produced from various feeding stuffs as one would imagine at first sight.

It has yet to be ascertained what is the exact difference between fresh and stored poultry manure, for this is an important point when it is taken into consideration that the portable-house system is coming into use so much at the present time. One would imagine from the foregoing that stored manure would contain a higher per-

centage of available nitrogen, owing to the action of the bacteria present. On the other hand, however, it may be that by keeping the excreta, even when mixed with earth, as is usually recommended, a certain proportion of the nitrogen is lost. The nitrogen thus lost falls upon the most valuable of the nitrogen compounds—namely, those that are soluble in water and available for plant food. When dung is made under the most favourable conditions there is a loss amounting to about fifteen per cent., but on account of the poultry excreta being drier it would be imagined that the loss would be less than with ordinary farm-yard manure.

The guano to which reference has been made consists of the excrement of sea-birds which frequent the rainless islands off the West Coast of South America. This material accumulates year after year and only undergoes a slight process of decay and washing. The older deposits may contain less than three per cent. of nitrogen and perhaps sixty per cent. of phosphates, whereas the more recent deposits show as much as fifteen per cent. of nitrogen and only twenty per cent. of phosphates. It is stated that one great advantage of guano lies in the fact that the many different compounds of nitrogen differ at the rate at which they can be rendered available, and hence the plant is fed continuously and suffers from no excess of available nitrogen in the soil at any time.

In dealing with fertilisers it is necessary for the user to realise the different action of the three constituents—namely, nitrogen, phosphoric acid, and potash. All are essential to the plant, yet they possess very different functions in its development. Nitrogen is concerned chiefly with the vegetative development and increases the tendency to form leaf and stem, hence an excess of this constituent may cause the leaf system to become excessive, and the plant may tend to continue growth rather than produce flowers and fruit. Phosphoric acid hastens maturity and favours the reproductive side of the development. A liberal use of this form of manure tends to induce fruit trees to produce fruit rather than grow, and this effect is more noticeable on heavy soils and in wet seasons when conditions make for slow maturity. Potash is mainly concerned in the manufacture of carbohydrates in the plant. For this reason it is very useful for potatoes and mangolds, which contain a large quantity of starch and sugar respectively. This constituent also tends to keep plants growing, and is, therefore, specially useful on light soils and in dry seasons. From this it will be seen that poultry manure forms a valuable fertiliser, and that its collection and treatment should receive more attention on the part of poultry-keepers.

We append the following figures taken from the

report before referred to. For fuller particulars readers should refer to the original article.

COMPOSITION OF POULTRY MANURE.

	Fresh sample.	Air-dried sample.
	P. c.	P. c.
I. Manure from Birds at liberty.		
Moisture	59.5	9.96
Dry Matter	40.5	90.04
Containing Nitrogen	1.75	3.99
" Phosphoric Acid (P_2O_5)	1.00	2.27
" Potash (K_2O) .. .. .	.54	1.22
II. Manure from Birds in confinement.		
Moisture	68.3	9.5
Dry Matter	31.7	90.5
Containing Nitrogen	1.47	4.21
" Phosphoric Acid (P_2O_5) .. .. .	.71	2.04
" Potash (K_2O) .. .. .	.49	1.4
III. Manure from Fattening Birds.		
Moisture	70.3	15.0
Dry Matter	29.7	85.0
Containing Nitrogen	2.28	6.52
" Phosphoric Acid (P_2O_5) .. .. .	.97	2.77
" Potash (K_2O) .. .. .	.55	1.57

Value of Manures.—Taking the quantities of manurial constituents in the above samples, and estimating their value on the following basis—

Nitrogen	12s. per unit (i.e., 1 per cent. per ton)
Phosphoric Acid	3s. "
Potash	4s. "

we arrive at the relative values when in moist and air-dried conditions respectively:

ESTIMATED VALUES OF FRESH MANURE PER TON.

	Phosphoric			
	Nitrogen.	Acid.	Potash.	Totals.
	s. d.	s. d.	s. d.	s. d.
I. Fowl at liberty	21 0	3 0	2 2	26 2
II. Fowl in confinement	17 8	2 2	2 0	21 10
III. Fattening fowl	27 4	2 11	2 2	32 5

ESTIMATED VALUES OF AIR-DRIED MANURES PER TON.

	Phosphoric			
	Nitrogen.	Acid.	Potash.	Totals.
	s. d.	s. d.	s. d.	s. d.
I. Fowl at liberty	47 11	6 10	4 11	59 8
II. Fowl in confinement	50 6	6 1	5 7	62 2
III. Fattening fowl	78 3	8 4	6 3	92 10

From the quantity of excreta voided by the birds under the test it was estimated that if a farmer had a hundred hens and six males he would obtain from them in the course of twelve months four tons of fresh manure, or a little over one and a half tons of air-dried manure, having a value of about £5.

A New Use for Egg-Shell Membrane.

The value of the membrane within the shell of eggs for wounds and burns has been recognised, but Dr. Max Staller, of Philadelphia, claims to have discovered that it can be utilised for human skin in grafting operations, and that his discovery will revolutionise the present system of skin-grafting. After three months' experiments, he states that if the shell membrane is placed on a burned surface the cells in it multiply so rapidly and the membrane becomes so large that it spreads over the entire surface affected. This opens out new considerations as to the influence of the shell membrane in the chick's evolution.

FANCIERS AND FANCY MATTERS.

By WILLIAM W. BROOMHEAD.

"Two Strings"—Hatching Results—Some Other Early Breeders—The Campine Fowl—More Changes—Standards—International Standards—Blue Leghorns—The Ancona Club.

"TWO STRINGS."

It often happens in live stock circles that success in one direction leads to success in another. Thus, among prominent poultry fanciers it is by no means rare to find those who are equally well known in other spheres—those who, as it were, have more than one string to their bow. The combination of poultry with pigeons or some other branch of so-called "minor live stock" is common enough, and many names could be given of those who are well in the front rank in two or more of these fancies. More than one gentleman, too, has been successful alike with poultry and dogs, while others excel with fowls and flowers. At one time a noted Orpington fancier was a well-known figure in rose circles. Of late there have been among breeders of large stock those whom we poultry fanciers can claim as "one of us." And of them perhaps none is better known than Mr. W. T. Garne. Mr. Garne is one of the oldest breeders of Modern Game in this country, and at one of the recognised Game shows of the year—to wit, Birmingham—he invariably has a good team of these birds, and many of them in the money. At the late event he secured the challenge cup for the best Black Red cockerel. Last season, too, he was successful with cattle at the Birmingham Fat Stock Show, and he followed it up at Smithfield by winning the championship (which included the champion plate of 100 guineas, the King's challenge cup for the best animal bred by the exhibitor, the £50 cup for the best heifer, and other valuable prizes) with his wonderful Shorthorn "Village Lassie." He is certainly to be congratulated on breeding and feeding such a remarkable beast, which, in cattle circles, was described as perfect.

HATCHING RESULTS.

Most fanciers who are anxious to be represented at the early shows—and their number is increasing each year, despite the outcry there is against the breeding of poultry out of the natural season—make a point of getting their chickens hatched in winter. Perhaps the majority of those who breed early are the exhibitors of the heavy breeds, and of them none is more forward than the Rev. T. W. Sturges, of Northwich, Cheshire, who made a good start on New Year's Day with twenty-five strong chickens, and who has since brought his flock up to goodly proportions. These were chiefly Buff and White Orpingtons, but "the light brigade" was also represented in a few Silver Campines. Eggs were plentiful and fertility high in December and January, due, no doubt, to the spring-like weather experienced towards the beginning of winter. By the way, Mr. Sturges's yards were thinned out in an unnecessary manner last season, since thieves paid them a visit and accounted for twenty valuable Leghorns, a breed with which the reverend gentleman has been closely identified in the Fancy for many years. One pen of nine choice Brown cockerels was cleared out, while the adjoining breeding-pens of Blacks lost nine others, and three were left dead with

top colour of the male birds was thoroughly thrashed out. The proposition was that the standard colour for cockerels be altered to allow top colour to be of a much darker blue than the present standard. But although there were present those who would prefer to see such an alteration, it was felt that to change the standard just now would indicate a vacillating policy on the part of the club. Such a policy as that, as can be imagined, would render the club in great danger of losing the ground already gained, and be detrimental to the best interests of the breed. I am glad to find, therefore, that it was passed unanimously to let the standard remain as it now is; and it is to be hoped that judges will remember this and support the club in taking such a very common-sense view of the matter.

THE ANCONA CLUB.

I am pleased to see that the Ancona Club is now in a healthy condition. As the indefatigable hon. secretary, Mr. Thomas Layberry (of 110, Horninglow Street, Burton-on-Trent), truly remarks, the club has now established its right to be considered a popular and necessary institution, and members will only have themselves to blame if they allow it to fall into the lethargic condition of a few years ago. The Poultry Club has granted a cup for the breed, and the president of the Ancona Club, Mr. Joseph Eadson, has presented the club with a five-guinea challenge cup for pullets to replace the one won outright by him last year. I notice that gentlemen who have kindly given free sittings of eggs to new members have been asked to discontinue the indiscriminate gift of these eggs and to give only to those who prove by their efforts that they have the welfare of the breed and club at heart. Also the hon. secretary writes that he will esteem it a favour if Ancona fanciers will report to him the name of any all-round judge who fails to observe the club standard in his judging, so that he can communicate with the wrong-doer on the subject. This is certainly as it should be; not that the all-round judges do not observe specialist clubs' standards, but it should serve to show them that the club has the interest of its breed thoroughly at heart.

MARCH NOTES FOR AMATEURS.

THE peculiar character of the weather this season has upset calculations both with regard to egg-production and rearing chickens. It has been proved that wet weather is the most formidable enemy poultry-keepers have to contend with, and whilst breeding stock have been seriously hindered in their domestic duties, those who are generally in the habit of rearing early chickens out in the open have found it practically impossible this year without some kind of shelter overhead and boards beneath. The consequence is that I fear many of my readers will find themselves later than they intended with their hatching and rearing operations, but after what we have gone through they will not lose very much, because the early chickens have not grown at all well and a good many have been lost. By the time this appears the weather should have improved distinctly, and

unless February fill-dyke lives up to its reputation to the very last the ground should be drier, which will give chickens a better chance to thrive. March is generally considered the best month of the year to hatch chickens, and I would advise those of my readers who want to raise pullets for laying next winter to hatch as many as they can this month. There are some heavy-boned, slow-growing strains of the larger breeds, especially exhibition strains, that need to be hatched earlier, but as regards utility fowls, and layers in particular, it may be accepted that March is *the* month of the year for hatching.

Whether or not chicken-rearers will now be able to dispense with protection altogether depends entirely upon the weather, but we have no doubt there will no longer be any necessity to keep coops under cover, though wooden floors will still be essential. When these are used, however, there must be an ample supply of peat moss-litter, which is the best material for coops and rearers when broken up fine.

The lengthening days also give the chickens a better chance, but those who wish to push their birds along will still do well to give a feed of corn by lamplight about ten o'clock at night. This is more particularly desirable with birds up to the age of four weeks, for after that time they are able to store away enough in their crops to last them through the night.

Chicken-rearers must take the precaution to move the coops from time to time, and as the earlier chickens develop they should be drafted on to fresh ground. This, however, is the great difficulty in the case of amateurs who have very limited space, and they will be well advised to curtail their operations, for it is better to rear a few birds and do them well than to crowd a large number into a small space and have the mortification of losing many and seeing the remainder grow slowly.

This is the best time of the year for selling the lower-priced eggs for hatching and day-old chickens, and those who have anything to sell should lose no time in advertising their wares. A few words about packing eggs will be useful. I have tried all kinds of boxes, but the cheapest and the best is a good strong chocolate box that can be obtained from a grocer or confectioner for a mere trifle. My plan is to wrap each egg in two or three pieces of paper, and then pack them in the box with hay and more paper so that the contents are wedged firmly. This entails some little trouble, but it ensures safety, and it is cheap. For more expensive eggs I use strong leather-board boxes with partitions, and pack these inside strong wooden boxes, with plenty of paper wedged all round. The leather-board boxes by themselves will not withstand the delicate handling of the modern railway porter, but when packed in a wooden box security is assured, and when one has a lot of eggs to send away this is a quicker plan than that described above.

The Latest Poultry House.

Mr. E. A. Ott, of Waukegan, Ill., has designed a house in three stories, with passage way, so that it accommodates six lots of fowls, for each of which a separate run is provided. We shall yet see sky-scrapers for poultry.

THREE WOMEN AND SOME FOWLS.

AN ACTUAL EXPERIENCE.

By MISS D. ROWE.

IT is possible for women to carry out a scheme of small-holding, modified to their physical capacity, although it has always seemed that it is essentially a masculine province—that women could only hope to be accessories after the fact in their operation. This is undoubtedly the case when the holding is agricultural, or strictly devoted to market gardening. The heavy work involved in the always necessary digging, the sometimes necessary ploughing, points to the work of man.

Coast, rent £25 per annum. The cottage contained three bedrooms, one sitting room, a kitchen, a scullery, and two rather awkward attics, and with it a garden of two acres, part of which was laid out as a small orchard, with a number of well-established fruit trees in it; there were currant bushes, gooseberry bushes, and raspberry canes, but all rather neglected.

There was a stable and coach-house at the far end of the garden, opening on to a side road; there was a sort of open barn near the house, and two smaller



The author of the above interesting and authentic article is seen standing in the doorway of her picturesque cottage. [Copyright.]

Circumstances ordained a life in the country for three lone women, and a self-supporting life at that, so we decided that a small poultry farm was the best thing we could work at, joining with it the taking of boarders. We were all town-bred, and started out in our new endeavour with all the confidence of ignorance. Our gardening lore was vaguely suburban, we knew chickens to be the friendly creatures who provided us with eggs, and our capital was a small house full of furniture and £100.

OUR COTTAGE AND GARDEN.

With the proverbial luck of the beginner, we found a cottage in a delightful old-world village on the South

sheds for wood and coal, and later on one of them housed the chicken food, and was used for killing, plucking, trussing, &c.

The previous tenant was a carrier, and had used the strip of front garden as a "stand" for his vans, so that it was a trifle neglected. Altogether, anything less inviting-looking than our new abode when we took it would have been hard to find. But it was that or nothing, in that particular village.

Luckily, the owner had fairly generous ideas about decorating, and soon we found the bedrooms looking fresh and dainty, the attics made habitable, the sitting-room all we desired, the kitchen turned into a cheerful dining-room, the scullery transformed into a delightful

red-bricked kitchen, and then remained that garden!

As we had to try for boarders at once, we tackled the front garden first. We used a pickaxe and spade for the making of a trench in the gravel two feet wide, all along the side of the house. This was dug out to a depth of two feet and filled with good mould from the kitchen garden, seeds were planted, roots of primroses "borrowed" from the hedge borders of the country roads, and all made ready for bedding-out plants when the time came for them. Two diamond-shaped beds were also made in the same way in the centre. We put in some rose bushes, but feared they would not prosper, as it was the end of March when we took possession; but we were wrong. They bloomed beautifully.

PREPARING FOR THE FOWLS.

Then came the preparations for the reception of fowls. We sent off orders to the neighbouring town for 3in. by 2in. quartering in 14ft. lengths (hop poles would have done as well), battens 10ft. long and 2in. by 1in., and wire netting. In doing this we followed the wise counsel of an excellent book (we bought it second-hand) on the keeping of poultry. We dug out twelve inch holes at intervals of ten feet, planted the tarred ends of our posts, nailed the battens on a level with the ground, then another row half-way up, put inch mesh netting at the lower part in order that little chicks should not be able to get through, two-inch netting at the upper section, and behold! one run was ready.

The first run was built round the open barn, which we divided into three parts; one for a dust-shelter, in which ashes, lime, and small grit were constantly renewed, another for a roosting-place, whilst the rest of the space we used for the storage of garden tools, spare rolls of netting, &c. This space was also available as a shelter for coops for sitting hens in winter—when we were lucky!

We furnished the first house with half a dozen hens and a cock, bought from a neighbouring farm, for which we paid 2s. 6d. each. They were of no particular breed, but the hens cheerfully started laying just when eggs were most plentiful. But as at Whitsuntide we secured our first boarders we were glad of eggs from the estate regardless of their strict market value.

We were guided by great good fortune in the purchase for 10s. 6d. of a hen with a brood of ten chickens. She was a compact little Silver-Grey Dorking, one of the neatest little birds imaginable, a splendid mother, for she never broke an egg or crushed a chick, and a good layer, as we found out later. Her chicks were about six weeks old when we bought them, and by the time visitors became more plentiful in the village we were glad of some of the birds for the table.

The garden was broken into three parts by inroads of other cottages and the village school, but this was rather a convenience for us in keeping our birds separated, and the walls afforded shelter and saved fencing. We built a little lean-to shed against the barn, made a smaller run in front of this new house, and that, with the original run, opened, by means of a trap-door cut out in the netting, into the kitchen garden, which we wired in, thereby making a grass run for the birds to run in on alternate days.

We found it far cheaper to buy vegetables than to

grow them ourselves. We tried some one year, but digging was too laborious for us, and too expensive if we hired a man. Besides this, the space was more valuable for the birds.

OUR STOCK OF BIRDS.

We kept the laying hens in the larger, original run, for the half-grown birds we wanted for table we had the annexe, and as fresh broods were hatched they were placed in the orchard (also netted round), each coop with the mother bird in it having a tiny run in front, but only the chicks were allowed free range. So many parents might not have agreed if they had been able to meet promiscuously, besides, our book told us that mother hens sometimes tired their progeny too much if allowed a free run. But we shifted the coops about from day to day to keep the ground sweet. Cats and hawks were kept away by an Irish terrier, who was kennelled in the run. A long piece of telegraph wire was stretched between two posts. He was chained to a ring on this wire, which enabled him to run along its length.

We quickly realised the wisdom of having a good breed of bird and sticking to it, instead of the haphazard "barn-door chuckies." At least, we compromised by having two good breeds, Plymouth Rocks and Langshans, which were kept separately, of course. We bought sittings of eggs from breeders at a distance, paying 12s. for thirteen eggs, and later on we sold a good many sittings of eggs from our own fowls to people round about. By the way, we discovered the wily villagers had a trick of buying eggs from us, ostensibly for cooking, and then they would slip them under a hen, and so secure some of our special breeds at nominal prices. But we discouraged their wicked ways by gently pricking the large end of each egg!

The second spring we were there we used the stable and coach-house for our Plymouth Rocks, which run was also arranged so as to open either into the kitchen garden, now partly grass and partly fruit trees, or into the quiet, grass-bordered road behind.

OUR PLAN OF FEEDING.

We fed our birds in the mornings on a warm meal of middlings, mixed with warm water, or the water lights had been boiled in; this meat was chopped up, and mixed with scraps from the house, boiled potato-parings, &c., for a middle-day meal. Barley and wheat were mixed for the evening meal. We fed them until they ceased to run after the grain when it was scattered—there was very little waste after the first few weeks! We gave the birds maize for a time for their evening meal, but found they were apt to get crop-bound, and they became too fat, so we discontinued it, or only gave them a few grains occasionally for a treat.

Our sitting hens were put in the coach-house, or in the barn in the winter—we were not able to afford an incubator then—and in sheltered nooks in the big run in the summer. We used to damp the eggs by dipping them in warm water, while the hens were feeding, for the last three mornings before hatching. Otherwise the chicks were liable to stick to the shell and die.

We put eight or nine eggs under a hen in winter, but twelve and sometimes thirteen in the summer. We rarely discouraged a broody hen, as we found we had a

steady demand for chickens for table, and for as many eggs as we could supply, for some of our boarders after leaving us used to have weekly parcels sent to their homes.

In the winter we sold our eggs at three shillings, sometimes three-and-sixpence, a dozen, including postage, and never less than a shilling a dozen at the cheapest time. Eggs for household use we booked to ourselves at the latter price. Chickens were never sold for less than five shillings a pair, sometimes more. Early spring chickens realised four shillings each at asparagus time.

HOME-MADE APPARATUS.

We found ordinary sugar-boxes, bought from the village grocer for fourpence, made excellent coops. The bottom was knocked out, replaced by small mesh netting, and the fronts filled in with sliding bars, sufficiently wide apart to allow the chicks free egress and ingress. The same coop the hen sat in served as her home after the chicks were hatched.

Our houses were not expensive. I had a smattering of carpentering, and could make them without calling in the aid of the village carpenter, whose ideas would have been more extravagant than mine. My proudest achievement was the turning of a cottage piano case into a house for the young birds in the orchard, after they had left their mothers and were still too young for the fattening-pen.

We limewashed our houses every spring and autumn. We cleaned them out carefully every day, and saw that the nests were clean and comfortable. Plenty of fresh water was placed in drinking-pans in the runs. Tops of coops were covered with old oilcloth, and then tarred, to make them water-tight.

FRUIT IN PLENTY.

The second summer we were there we found our fruit trees benefited greatly by the fowls running over the ground. From two plum trees we gathered fruit in a clothes basket three times in one week, without seeing much diminution in the crop. We sold our fruit, we ate our fruit, our boarders enjoyed some of it, and we made jam with the rest until it became a tax to pay for the sugar and jars were simply at a premium.

We also found we could grow standard and bush roses in the fowl runs, as the bushes gave welcome shade to the fowls and the fowls nourished the bushes. We had roses growing out in the open right up to Christmas.

Although we were two miles from a railway station and three from the nearest town, we had no difficulty in selling as much of our produce as we could spare.

DO POULTRY PAY? YES.

At the end of the first year we found our fowls had paid for themselves and their food. At the end of the second year we had recovered our outlay on netting, wood, &c., and, with the sale of our flowers and fruit, paid our rent. At the end of the third year we were in a very flourishing condition, which continued until at length we sold our business at a good profit, when circumstances again decreed that we, most reluctantly, must migrate back to town.

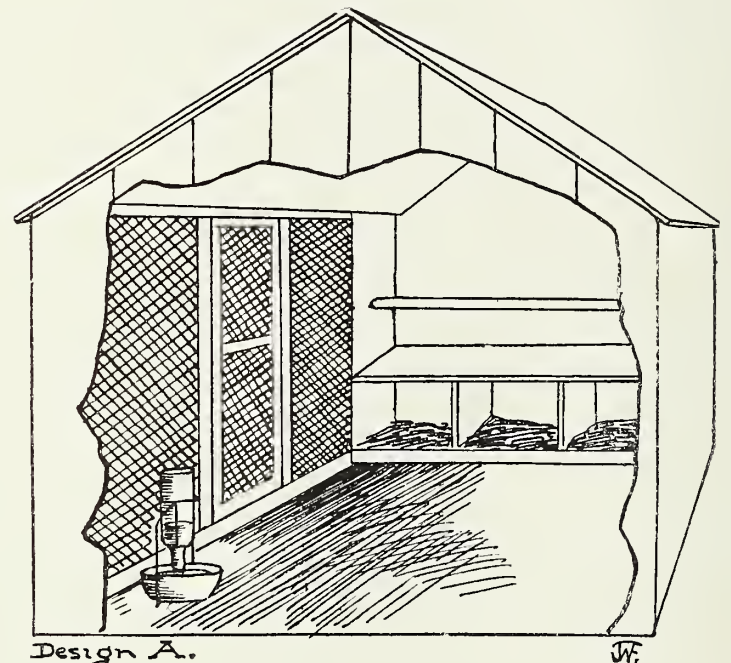
THE INTERIOR OF THE POULTRY-HOUSE.

By REGINALD WILLS.

THE interior of the poultry-house is a question of paramount importance, and one that should be exhaustively considered by poultry-keepers of all classes. I have known cases in which the outside of a poultry-house has been preserved with paint of the most expensive kind, while the inside is left in a condition deplorable in the extreme. I have known cases, too, in which the poultry-keeper has gone in the opposite direction, and planned the inside of a house in a complicated and crowded manner. Both ways are incorrect, and both ways should be avoided.

I will endeavour to show, therefore, a method of planning the interior of a poultry-house, and give some facts which few poultry-keepers can afford to pass by.

I will deal first with design A. This drawing gives a good idea of the inside of a poultry-house well arranged. The arrangements are few, but they are



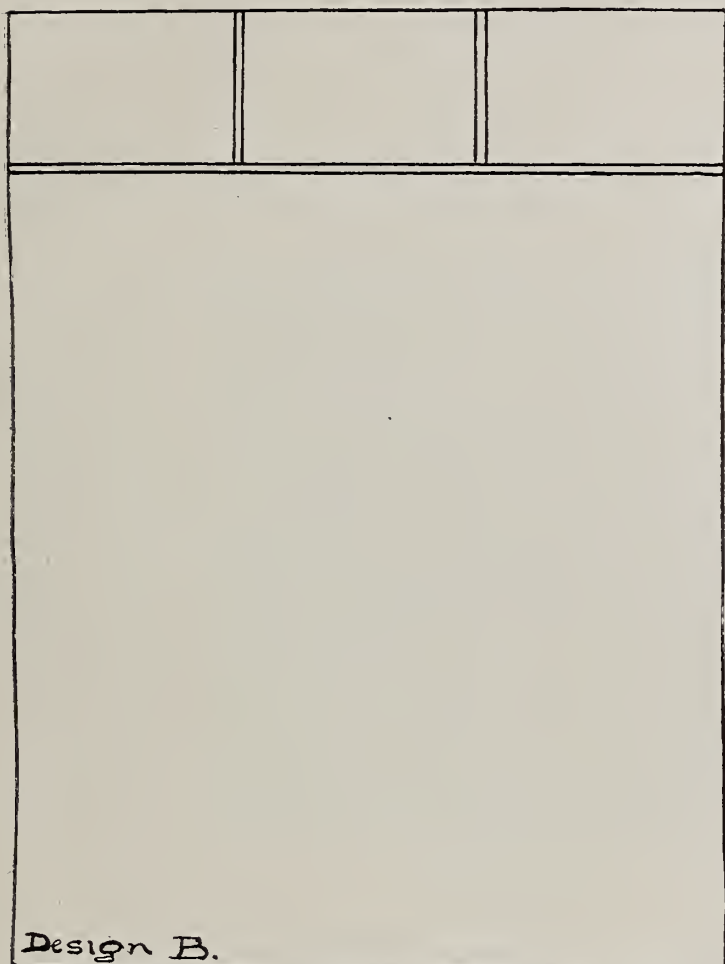
adequate, and complications are avoided. At the far end we see a series of nest-boxes, and it will be noticed that these are placed on the ground. This is done purposely, for experience has taught me that this is the better way, since the hens have merely to walk into them. On the top of the nest-boxes there is a dropping-board, and, not being a fixture, it allows it to be removed every morning, cleaned thoroughly, and then replaced. Over the dropping-board is the perch, fitted into sockets. This method makes it quite easy to remove the perch for cleaning purposes.

The roosting quarters are confined to one end of the house, leaving the remaining space to be used for a scratching-shed, which method, in my opinion—and I write from practical experience—is better when space and economy are considerations. The dropping-board keeps the floor in a sanitary condition, and I repeat

that this method of planning the interior of a poultry-house is very greatly to be recommended.

In design B one has the ground plan of the drawing I have described, and a study of this should make matters perfectly clear and concise.

The water-fountain is shown in design A in the centre of the house, but this, of course, can be moved to a more convenient spot. I give this appliance a prominent position, in order to emphasise the necessity of having a water-fountain inside the house. This practice may be regarded by some, perhaps, as hardly



necessary; but I have seen, on many occasions, birds penned in a scratching-shed during a wet day, but almost invariably the water is outside in the run. There is no doubt that strict attention to details regarding the interior of the poultry-house will bring better results in the end, and it behoves every poultry-keeper to attend to these matters.

The floor of the poultry-house should be higher inside than the ground outside, as this allows better drainage; and the litter—dried leaves, straw, peat-moss, or whatever is used—can be placed on the ground without becoming wet. Whatever is done, however, the interior of a poultry-house must be kept in a clean, dry, and sanitary condition, while the fixtures must be made in a simple manner.

THE ROTATION OF PRODUCTION.

By J. W. HURST.

FOWLS.

Problems of incubation and brooding are always more or less prominent subjects of discussion among producers at this season, but it is in connection with the latter that the inexperienced are more prone to be doubtful than relative to the former, and beginners are very apt to be experimental in their rearing operations. I have already this season received an unusual number of letters from those who are anxious to depart from the normal in the treatment of their birds.

Inquiries of this description take two main lines, and are based either upon the assumption that the operations of farm rearing may be compressed within as many square yards as they require acres, or a confusion of thought regarding the price of feeding stuffs and their feeding value for given purposes. Questions concerning space have been accentuated by the introduction of methods of poultry-keeping that are in some measure novel, and the feeding difficulty has become more serious on account of the generally high level of prices.

It is not easy to disabuse the mind of the novice of the idea that rearing in confinement is a commercial method of producing table chickens or breeding stock, and it is even more difficult to make poultry-keepers believe that equal results are obtainable when cheap foods are substituted for those that are relatively expensive. Experimental work is not as a rule remunerative, and until the way of improvement is proved authoritatively individual producers will find it safer to follow the lead of experience. Perhaps the greatest trouble of both chicken and egg producers is the cost of production, but this cannot be lowered by the use of inferior feeding stuffs; and—relative to the other matter—loss of freedom tends to raise rather than reduce it during the period of a bird's growth and development. The scarcity of green food has been considerable, and where winter greens cannot be utilised the stock birds should have well chaffed and scalded clover hay mixed with their soft food. This is such a useful ingredient in the absence of fresh vegetable food that it is worth while using it even at high prices.

DUCKS.

The greater the variety of foodstuffs employed, provided their character is suitable, the better ducks will thrive, but in rearing for market the possibilities are narrowed by the necessity of getting the young birds ready for killing within the required age. One part of middlings mixed with either boiled rice, oat-meal, or barley-meal, with some use of maize-meal and lean meat or greaves, will bring the birds along until about the fifth week and provide the opportunity for varying the rations. But from the fifth week one part of tallow greaves and three parts (by bulk) of rice, well cooked, will produce the finished condition. Ducklings that are being reared for stock must be treated differently. In their case a gradual growth is wanted, not a rapid development, and where the others should be confined these must be given liberty and access to swimming water. For soft food mix-

tures sound meals should be used, boiled vegetables, and an allowance of bone-meal; with small flat maize, oats, and wheat at night, as soon as they are fit for grain feeding.

GEESE.

When goslings are cooped out with hens, as is usual with the early hatchings, it is advisable to provide a small wire-netted enclosure during the first few days. Their first food may very well consist of biscuit-meal (well scalded) and finely chopped green food—such as lettuce leaves or dandelion if available, and at the commencement they should be fed frequently but not too freely at one time. The food must be mixed crumbly, and ground oats, boiled rice, and sharps may be introduced at the end of the first week—by which time the birds should be grazing, and consequently must be cooped in a suitable situation. As they grow rapidly under careful management, and if allowed a sufficient range over grass land, their sleeping accommodation must be regulated in accordance with the needs of increasing bulk. When intended for early marketing they should be kept on the grass and off the pond; but they must not be allowed such a measure of freedom as is required for birds that are to be run on for later marketing or stock purposes. For early killing, in addition to grazing the birds will do well if fed generously twice daily upon a soft food mixture of barley-meal, sharps, and brewer's grains—commencing this treatment when the goslings are about a month old.

TURKEYS.

At the commencement of the laying season it is very easy to defeat the end in view by any attempt to regulate the movements of the hens too obviously, but on the other hand too much freedom of choice in the matter of nesting-places is also undesirable. The hens exhibit some anxiety about nesting-places well in advance of the laying of the first egg, and may be induced to decide in favour of convenient situations if proper provision is made—a bundle of hay in a quiet corner or an empty barrel in the shelter of a faggot stack will often be sufficient. The eggs should be unobtrusively collected as laid and a china egg left in each nest. As soon as from eight to ten have been gathered, they should be set under a broody hen, and as many clutches as possible should be set this month in view of the desirability of hatching in April.

What's in a Name?

In the United States Vermont turkeys are much in favour, but the supply is not equal to the demand. It is said that Canadian birds are taken across the frontier in droves, killed in Vermont, and sold as of that ilk. Human nature is the same everywhere. Sussex fowls are not all bred in that county.

A Paper Brooder.

Paper is used in many forms, and even railway carriages have been built of that material. An American firm advertises a fireless brooder and run made from corrugated waterproof paper 42in. long, 18in. wide, and 9in. high, selling it for two dollars (8s. 4d.).

CONDITIONS FOR NATURAL REARING.

By FRED. W. PARTON,
The University, Leeds.

TO a large extent the early treatment and management of chickens determines their future value. Neglect at the outset will have well-nigh fatal results so far as ultimate profit is concerned.

The first important point for consideration is: What is the most suitable place upon which to rear chickens? The points that ought to govern the choice of the situation for the work are what amount of natural shelter in the form of shrubs, bushes, &c., is available, and if these are not available, does the position lend itself readily to the erection of temporary shelter? The quality of the soil is also important, and while the poultry-keeper cannot alter its quality, he can do much to overcome difficulties which at first sight appear to be insurmountable. It is an absolute necessity that the immediate plot upon which the chickens live shall be dry, not necessarily sandy, nor very light, but it must be dry. The result of rearing on a damp, marshy place is that the growth of the chickens is very considerably retarded. Not only so, but the damp and cold arising therefrom have the effect of inciting attacks of diarrhoea, while, in addition to this very serious ailment of chickenhood, they very often go wrong in the legs. It is no uncommon sight to see chickens that run on a damp soil with their toes caked with mud. This accumulates and hardens to the solidity of a stone, and it is not infrequently the cause of permanent lameness, which is not only detrimental from the utility standpoint, but very objectionable from a point of beauty. A few deformed chickens quite spoil the appearance of an entire batch, since these faulty specimens seem in an unaccountable manner to be more prominent than any of their more perfect brethren. It is, however, true that chickens may be affected in this way upon any kind of soil, but it is more liable to happen on a damp than on a dry place, since under the latter conditions it is caused by inattention to cleanliness.

It is difficult, if not impossible, to get a place that is perfect in every detail; at the same time, by exercising a little ingenuity and method a most unlikely place may be transformed into quite a suitable one. If the ground is not naturally dry, some kind of drainage should be adopted. Of course, whatever be the ingenuity of the owner, no amount of skill can ever convert a really bad place into a good one, but much may be done to improve it. In addition to surface drainage, the highest part of the land should be chosen, so that the water runs away from the spot where the chickens mostly gather. It is a very great advantage, when the rearing ground is so situated, for the chickens to have freedom and access to ground that can be dug up from time to time. This gives a wonderful fillip to their growth, since they are kept busily employed in scratching, and they get from the freshly spaded earth much valuable feeding matter. In selecting the position the importance of adequate shelter must not be neglected. This is an extremely important matter, and it is seldom recognised that shelter is just as necessary for the feathered members of a farmer's stock as it is

for any other live stock. It is not meant to imply that they require to be reared entirely under cover. We are by no means in favour of this system, which has the effect of making them extremely tender, and when the time arrives, which arrive it must, for their removal, they are not equipped with the necessary strength to withstand severe weather, which they are sure to have before they are safely "through the wood."

There are other extremists who say that they like to follow nature and bring them up in a hardier manner. Very frequently this cry of following nature is merely an excuse for neglect, both so far as chickens and adult stock are concerned. It is all very well to say when the young ones have no shelter and the old ones roost in the trees that this more nearly resembles

placed that all the benefit of the shelter, whether natural or artificial, is secured. The coop should be sufficiently roomy to allow the hen freedom of movement. An adjustable shutter in front is a distinct improvement, since it affords protection during the night and shade from the sun in summer. One very often sees coops facing in any direction except the south, and, being provided with no sort of shutter, the wind and rain beat directly upon the inmates. In the very early months of hatching it is an excellent plan to place the coops under a wooden shed, where the floor is strewn with dry earth to the depth of two or three inches. On the top of this some sort of litter, such as chopped straw, chaff, or anything of a similar nature, should be strewn, among which the chickens



POULTRY-KEEPING AT THE SCHOOL OF DOMESTIC ECONOMY AT LOUGHLINN, CO. ROSCOMMON.

Here peasant girls, as soon as they leave school, are trained to become useful wives to farmers.

[Copyright.]

the conditions prevailing when in their wild state. It would be quite as reasonable not to feed the birds, since in their natural state they were accustomed to find their own. There is a medium in all things. Allow the chickens liberty to run out in the open at any time, but have plenty of shelter and a place where warmth may be had. They will soon find out the warm spot and run to it when they require brooding. Chickens will never thrive to the same extent unless they are kept warm, for we find the growth of all stock is very considerably retarded unless they are kept warm. When the chickens mope about with shoulders up and feathers ruffled, it may be taken as a certain sign that they require more heat.

The piece of land that is to be used for the chickens should be in readiness well in advance, and it should be dry and well sheltered. The coops should be so

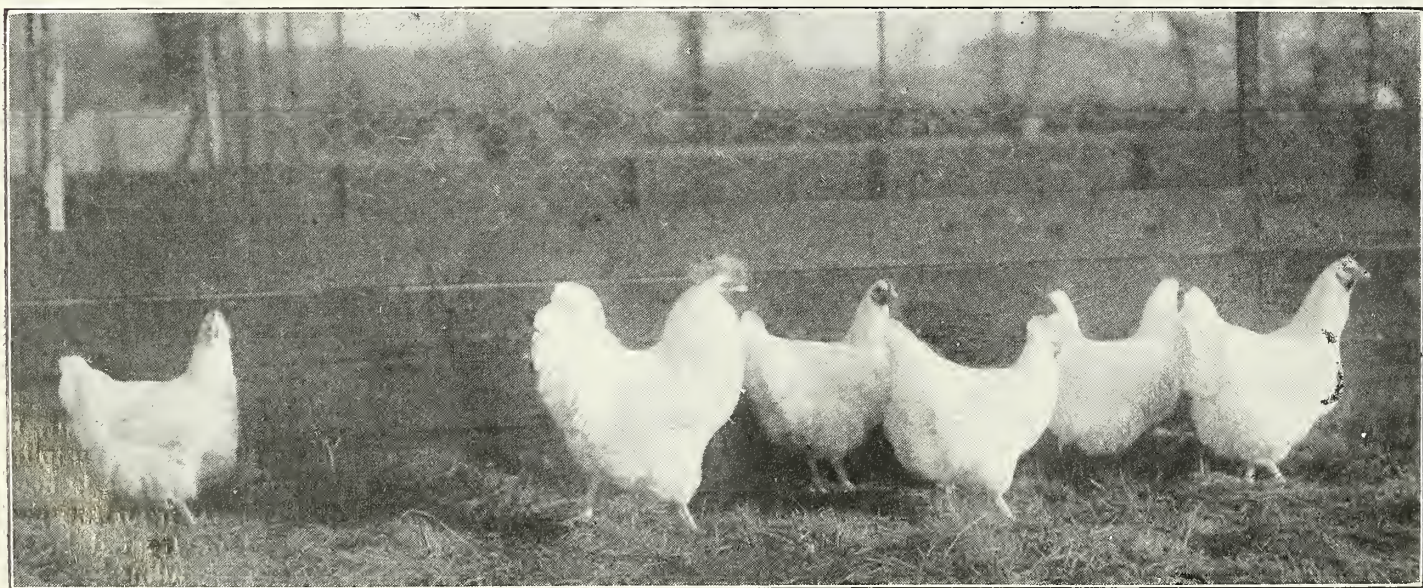
can find plenty of employment. If the place at the poultry-keeper's disposal is sufficiently large to allow of the daily moving of the coops, and the earth is dry, it is inadvisable to have a wooden floor. If, however, the soil is heavy and cold, a wooden floor should, by all means, be provided; but it should not be part of the structure, but merely a board a few inches bigger than the bottom of the coop. When the coop is placed thereon, both hen and chickens are protected from the damp earth. This, of course, is important, but even more important still is that it greatly simplifies the thorough cleaning of the coop. All that is necessary is the daily removal of the coop from the floor, when the latter may be scraped or treated in any way necessary to secure perfect cleanliness. Many are the ailments incidental to chickenhood that owe their beginning to inattention to these

matters. It is perfectly true that the hatching season is an extremely busy time for the poultry-keeper, and with his many and varied duties he may overlook the supreme importance of this matter, the results of which are apparent in many directions. Dirt is bad for fowls at every stage in their life, but never is it so serious a menace to their well-being as it is during their young days. It considerably checks their growth and undermines their constitution, thus rendering them ready victims for disease, which otherwise they might escape. Dirt and insanitary conditions are responsible, in many cases, for the presence of both internal and external parasites. When young stock are doing badly worms are very often unsuspected, and some other cause is given for their wretched condition, but it is due to worms that they are thriving so unsatisfactorily. Much of this trouble may be obviated if care be taken to keep the ground, coops, and all other appliances scrupulously clean. In close proximity to the coop some fine ashes or dust should be placed, so that both hen and chickens may enjoy a dust bath, one of the surest ways of keeping down parasitic life.

The frequent moving of the chickens has a twofold benefit, one of which we have already mentioned—namely, cleanliness and the keeping of the land sweet. The other reason is equally important, and that is, the benefit derived by the birds through having a continual change of surroundings. There is no greater aid to growth and condition than that secured by change of environment. This is seen in so many directions. After a rather lengthy stay on one place the chickens may be observed to have lost much of their former energy, and for the next two or three weeks their growth is not so pronounced. The reason for this lethargy and check in growth simply means that the birds want a change. This does not mean that the land is tainted, or any such deadly reason necessitating the change, but merely that the tedium and the familiarity of their surroundings have cramped their energy. A change of position very soon restores their vigour, which is so closely allied to growth and condition.

THE AMATEUR'S BREEDING SEASON.

AS compared with the professional or skilled poultry-keeper, it may be said that as a general rule the amateur loses ground in commencing, and again in the manner in which he conducts his breeding and rearing operations. The first is very often due to inability to devote sufficient time to the stock at a critical period, for if one would have early fertile eggs and early chickens there is much to be done in the way of preparation before the actual breeding season commences. In some cases that have come to my notice late breeding has become chronic. By commencing with late-hatched pullets, chickens are not obtained until well on into the spring, and the pullets amongst them are not ready to lay in their turn until the end of next winter; and so it goes on year after year, and the poor amateur never seems able to catch up the time lost at the start. The moral is obvious. If you are making a start with poultry, be sure to obtain some young, but early-hatched and well-developed, stock to breed from. If you have already commenced and have neglected this very important precaution, and find yourself late every season, do not waste any more time lagging in the rear, but make a fresh start in a more satisfactory manner. It is difficult to persuade an amateur who has in his inexperience made a bad beginning with undeveloped or degenerate stock that the very best thing he can do is to cut the loss and start again. Usually he has an idea that he can put matters right in a year or two, or that they will right themselves in course of time. And so he will go struggling along, only commencing to breed when other people are nearly finished, always short of eggs, especially in winter, and scarcely knowing what it is to see young stock thrive and develop as they should. This is not a fanciful picture, but what is actually happening to scores of amateurs who have bought badly at the commencement. He is a wise man who lays a



A BREEDING-PEN OF MRS. TREVOR-WILLIAMS' WHITE ORPINGTONS.

solid foundation to his operations by purchasing stock from a genuine breeder with a reputation for his fancy or utility strains, as the case may be; and he is a lucky man who buys by chance and happens to get something good. But in this case it is easier and cheaper in the long run to be wise than lucky.

To the average amateur quality is of more importance than quantity—that is to say, it is better that he should breed a few chickens from good stock, and do them well, than encumber himself with a lot of young birds of no particular merit. In a great many cases people who keep a limited number of hens, up to thirty or forty, will run two or three cocks with them, and set the eggs as they come. I have even known an amateur fancier who had only three good hens in his breeding-pen to bring in three more inferior birds, and set eggs from one and all just as they came. Anyone would know that this man was doing wrong but it is not so generally understood that the selection of breeding stock is just as important when utilitarian properties are the object. In a large flock there are good, bad, and indifferent layers, and it is only by selecting the former and leaving out the other two grades that we can raise the standard of the useful and reduce the drones to the minimum. Even if the best birds are not laying just now, do not fall back upon the others in order to save time. Both in fancy and utility poultry-breeding it is merely wasting opportunities to breed from any birds that are not up to a certain standard.

March is by many people regarded as the best month for hatching, and for utility stock of the medium heavy breeds, such as Wyandottes, it certainly is, for as a general rule the pullets are early enough to start laying before the autumnal changes of weather and late enough to miss the summer moult that spoils the profit of so many early-hatched birds. Therefore, set as many eggs of the medium heavy breeds as you require within the next week or two, and when you have set sufficient to produce as many chickens as you require and can manage properly, stop short.

And that brings us to the sale of eggs for sitting. Many amateurs complain that they cannot find a ready sale for their eggs, and that is generally because they ask too much money. They must not expect to realise the same prices as the professionals and the successful breeders who, in many cases, have spent half their lives in bringing their strains up to a certain standard of excellence, and who have devoted hundreds of pounds to developing their businesses. The amateur's eggs may produce just as good chickens as those of the professional. Sometimes they do, and sometimes they do not. At any rate, the big firms are entitled to charge for their reputation, for their strain, for the time and money they have put into their work, and for the superior stock they possess, though the same stock may not actually be in the breeding-pens they sell eggs from. To compete with rivals of this class, the amateur can do no more than keep his prices low. When his eggs are priced at the same rate as those of the professional, the public will invariably prefer to take their chance of getting something good from the latter; but when the amateur charges one-third less he may do a fair amount of business, and if he reduces his prices by one-half and describes the merits of what

he has to sell, he can hardly fail to secure a good share of patronage.

As for buying eggs from other people, now is the time to invest a little money. Most amateurs like to have one or two sittings every year in the hope of something good turning up, and in the fancy side of the business there is plenty of fun to be had, and not a little disappointment. The amateur who cares only for utilitarian properties can procure eggs from some of the best strains for a moderate outlay, and he is less likely to meet with disappointment than the would-be fancier who imagines the purchase of a guinea sitting the sure road to a win at the Dairy or the building up of a famous winning strain. In buying eggs from fancy strains the safest plan is to know the party you are purchasing from. If you happen to be acquainted with a fancier who, to your knowledge, is selling eggs from a pen of good birds that he himself is actually breeding from, those eggs should be worth buying, and even though he be a comparatively small fancier it is better to go to him than to an unknown person who may not sell eggs from his best birds. And the worst of egg buying is that it is so difficult to tell who does sell eggs from his best pens. Among the best breeds for amateur egg buyers to invest in are White and Partridge Wyandottes, Buff, Black, and White Orpingtons, Black, White and Brown Leghorns, Minorcas and Barred Rocks. Black Wyandottes are still a big gamble, and Blue Wyandottes and Blue Leghorns are altogether in the clouds for the present.

UTILITY POULTRY CLUB.

FOR some time past it has been felt that something more should be done to help the table poultry industry, and two or three meetings have been held by persons interested to consider what could best be done. A provisional committee was formed, of which Mr. Wheeler was chairman, and Mr. W. Henfrey, of the Dower House, Langley Park, Beckenham, has kindly undertaken the duties of hon. secretary.

At the last meeting of this committee it was decided that their objects could best be attained by co-operation with the Utility Poultry Club rather than to start a Table Poultry Club as a separate organisation, particularly as it was an avowed object of the club to promote all branches of the utility poultry industry. It was agreed to invite persons interested to join the club if more definite steps were taken to further the interests of this particular branch of the industry.

The funds of the club, as is well known, are already fully pledged for the carrying on of the various work of the club, including the laying competitions and special prizes for table poultry and eggs at shows, and until further financial assistance is obtained it is not in a position to expend money on any schemes which may be proposed to further encourage the table poultry branch.

The provisional committee are seeking promises of support, and invite all those who are willing to join the club, provided it is prepared to consider and undertake any schemes put forward by them for the more definite encouragement of table poultry, to communicate with Mr. Henfrey, the hon. secretary to the provisional committee.

COOKING SPRING CHICKENS.

AS these delicate little morsels form rather an expensive luxury, it is wise to select only those methods of preparing them for table that will tend to make them serve to the very best advantage. With that object in view, the following suggestions may perhaps prove helpful:

BROILED CHICKENS.—After properly preparing the birds, cut them down the back and flatten them well, so as to secure a neat shape, then soak them for an hour in a marinade of fine salad oil, fresh lemon juice, sliced onions and chopped parsley, turning them twice or thrice during the time. After this drain them well, cover them entirely with a firm coating of beaten egg and fine breadcrumbs, and after pressing this well so as to render it quite smooth, broil the chickens over a clear, moderately hot fire until sufficiently cooked and nicely browned, then serve quickly, neatly arranged on a bed of well-seasoned fresh watercress and garnished with slices or quarters of lemon. Or, if preferred, the chickens, after being broiled as directed above, may be served as follows: Boil or steam some good sound potatoes in the usual way, and when cold cut them first in thick slices, then into neat square dice. Put these into a bowl with a seasoning of salt, pepper, finely chopped parsley, salad oil, and either lemon juice or vinegar, and a small quantity of very finely minced onion, then set the bowl in a cool place for an hour or two. When required toss the potatoes gently, form them into a firm flat bed on the dish, and arrange the chicken on top. Garnish round about with sprigs of fresh parsley, and serve at once.

CHICKENS EN CASSEROLE.—This is a very simple method of cooking and serving the birds, at the same time, it is one to be highly recommended. Cut up the birds into small pieces, just a convenient size for serving, and fry them in a little hot beef dripping, or clarified fat, until lightly browned, then drain thoroughly and put them into the casserole. Add sufficient well-seasoned white stock just barely to cover them, put on the lid, which should fit very closely, and stew gently until about half cooked, then add some medium-sized, peeled potatoes, cut in quarters, some mushrooms which have been partially cooked in butter and well drained, a seasoning of salt and pepper, and a sprinkling of chopped parsley, and continue to cook gently, with the lid on all the time, until done enough, then send to table in the casserole.

PILAFF OF CHICKEN.—Cut the birds into small neat joints and put them in a stewpan with just enough white stock, or water, to half cover them, then put on the lid and let the contents of the pan come slowly to the boil; skim carefully, then add three or four ounces of fine well-washed rice and a little salt and white pepper, cover closely, and stew very gently until the meat is tender. When done enough, pile up the chicken and the rice on a well heated dish and pour over the whole some thick, well made, hot tomato sauce. Arrange some hot hard-boiled eggs cut in quarters round about, sprinkle the whole with very finely chopped hot parsley and serve quickly.

FILLETS OF CHICKEN IN BATTER.—Cut as many fillets as possible, then divide the rest of the bird into

small neat pieces and season the whole with salt, pepper, finely chopped parsley, and grated lemon rind; press the seasonings well in, and in about half an hour, dip the chicken into well-made frying batter and fry in plenty of boiling fat until coloured a dainty golden brown. When ready, drain very carefully from the fat, and pile the fritters up neatly on a hot dish covered with a fancy dish paper or a folded napkin, garnish freely with sprigs of fried parsley, and serve the whole as hot as possible. To make the frying batter mix three tablespoonfuls of flour to the proper consistency with lukewarm water, then add a seasoning of salt and two tablespoonfuls of fine salad oil. Let the batter stand in a cool place for several hours before using, then just at the last minute stir in very lightly the whites of two perfectly fresh eggs beaten to a stiff froth.

CHICKEN WITH FRENCH RAGOUT.—Prepare and cook the birds as directed for "Broiled Chickens," then dish them up neatly on a bed of mashed and seasoned potatoes, or creamed cabbage, and arrange round neatly on a hot dish covered with a fancy dish odd pieces of chicken and cut them into half-inch dice, then mix with them an equal quantity of cooked ham, tongue, macaroni, and mushrooms, all cut up small, also the red part of a boiled carrot scooped out in tiny balls about the size of a pea. Put all these ingredients into a stewpan with a small quantity of good white sauce, a seasoning of pepper and grated nutmeg, two tablespoonfuls of grated cheese, and a dessertspoonful of chopped parsley. Toss the ragout over a moderate heat until well blended and quite hot, then use as required.

FIRELESS BROODERS.

By F. E. A. GORDON.

(An address given at the New Zealand Poultry Conference, November 8, 1911.)

THE Fireless Brooder has come to stay, because it is cheap, produces healthy chicks, hardy chicks, and heavy chicks.

There are many kinds of Fireless Brooders, and I wish to say here that I cannot hold with the pad system of brooding, as it is liable to sweat the chicks and thereby lay them open to future disease, not to mention the checks they receive at once.

There have been many objections raised to the Fireless Brooder, but this is only to be expected, as there are men in the poultry world whose business seems to be to raise objections to any progressive step, but who utterly fail to offer us anything better, or, indeed, as good.

Some say they are alright if in warm buildings or under favourable circumstances, but this is absolutely incorrect. The plant I have the honour to manage is situated at Waitara, Taranaki, and all of my chicks for the season have been reared in fireless brooders; there is not a warm brooder on the place. The building in which these brooders are situated is 60 feet long by 14 feet wide, and is of 1,500 chick capacity. The entire front is wire netting, and calico curtains are fitted, which, in case of Northerly rain, are let down to prevent the rain driving in.

During the whole of August there was very little

sunny or warm weather at Waitara, but depressing, dull, bleak, and raw weather, which fact may be attested by any resident of the district. In spite of this our chicks did very well and thrived with remarkably small losses; yet they were put direct from the incubator into the brooder and transferred to the brooder-house in such weather as above.

Our brooders are simply a box 21 inches square, inside measurement; built of 9 inch by $\frac{3}{4}$ inch boards, and floored; a door 5 inches high by 6 inches wide being cut out of one side of the box. A medium-sized fencing-staple is driven in each corner, as near as possible to the corners, and 6 inches above the floor, and another, also in each corner 2 inches above that. A lid is made of 9 inch by $\frac{3}{4}$ inch timber, with a 6 inch square hole cut in the centre, and this is covered with wire netting; the door is also protected at night by a frame covered with wire netting to protect the chicks against rats, &c. The whole of the timber required

The chickens are no trouble when they are removed to the growing pens and NEVER crowd in corners as is the case with heat-brooder chicks.

The runs attached to these brooders in the brooder-house are 6 feet long and 23 inches wide. There are no outer runs.

The fireless brooder means an enormous saving to those with limited capital quite apart from the release from danger of fire; and that the chicks are as good is demonstrated by the fact that Mr. W. C. Davis, of Napier, entering 17 exhibits at the Hawke's Bay Agricultural Show, of birds brooded in this way, and kept in close confinement, won 14 prizes with the 17 birds. Mr. Davis raised 800 or 900 pullets last year, and these are all on less than half an acre of ground, besides this season's chicks. I do not know how many he has raised this year by fireless brooders, but it is sure to be in excess of last year, and he has no heat brooders on the farm.



A POPULAR TYPE OF DANISH POULTRY-HOUSE AND SCRATCHING-SHED. [Copyright.]

for this brooder is: Two pieces of 9 inch by $\frac{3}{4}$ inch boards, 21 inches long, and seven pieces $22\frac{1}{2}$ inches long, one of which is ripped down the centre, making two pieces $4\frac{1}{2}$ inches wide, $22\frac{1}{2}$ inches long, and $\frac{3}{4}$ inch thick.

The hover portion is made out of a piece of calico 24 inches square, and a piece of flannel 23 inches square; a strip of flannel 6 inches wide and 7 feet long, and a strip of calico 5 inches wide and 7 feet long. I do not propose to go into a long and tedious explanation as to how it is made as the hover itself will be submitted for inspection [which was done.—Editor.] When the whole is complete the hover is held in position by the wires shown, and the space between the flannel and calico is filled $1\frac{1}{2}$ inches deep with feathers (or down). At the end of three weeks the hover is raised by the simple method of hooping the wires into the upper staples described before. At the end of the fourth week the feathers are removed, and at the end of the fifth week the hover is taken away.

Canadian Poultry Commissioners.

The good work done by the Dominion Dairy Commissioner has led to a demand for a corresponding official for poultry. There appears to be unanimity of opinion that for such a position the right man in the right place would be Professor A. G. Gilbert, head of the Poultry Department of the Experimental Farm at Ottawa.

Death of a South African Judge.

The death is announced of Mr. W. Shaw, of Johannesburg, who was well known as a breeder and judge of Old English Game, and also of Indian Game and Minorcas.

Big Figures in Day-old Chicks.

The Uhl Hatchery in New Washington, Ohio, states that they sold over 280,000 day-old chicks last season. Evidently these central hatching establishments have a great future.

NORTHERN UTILITY POULTRY SOCIETY.

LAYING COMPETITION, 1911-12.

*Under the Management of
Messrs. Burrell & Thornton, Whittlefield Farm, Burnley.*

REPORT OF THE FOURTH MONTH.

The weather during the month has been a contrast from the previous three months of the competition. The first week being alternate wet and fine, followed by three weeks frost and snow, the runs being covered most of the time. The most remarkable thing being that it did not have an adverse effect on the egg yield, as is shown by the total of 2,277 eggs for the month. No doubt much is due to the excellence of the houses, as the birds spent most of their time scratching for the food which was buried in the chaff. It was no uncommon thing to go round the pens without scarcely seeing a bird outside.



WINTER CONDITIONS DURING THE RECENT COMPETITION AT BURNLEY LANCS.

[Copyright.]

Four birds have been broody during the month, viz:—Nos. 8, 115, 120, 153.

The following have gone into moult:—Nos. 6, 7, 29, 32, 42, 164, 179.

No. 87 has suffered from slight cold, and No. 128 from leg weakness.

I regret to have to report that No. 16 died, and I give Mr. Will Hooley's report thereon:

15, CLARENCE ROAD, BIRKDALE,
16th January, 1912.

Dear Mr. Longbottom,

I have examined the pullet numbered 16 on the wing, forwarded by Messrs. Burrell and Thornton, as one of the birds which was taking part in the present laying competition.

Dissection proved that the cause of death was internal

hemorrhage from the liver, which was greatly enlarged and diseased. This accounts for the suddenness of death, as the bird would die without giving signs of ailing, and needless to add, treatment of any kind would have been useless.

In other respects the bird was in the condition one would expect to find a winter layer.

Yours faithfully,
C. Longbottom, Esq. WILL HOOLEY.

Pen No. 48 (White Leghorns) made the highest score during the month, laying 87 eggs, and win $\frac{1}{2}$ -cwt. Perfection Chick Food, given by Messrs. J. Cornall & Sons, Kirkham.

C. LONGBOTTOM,
28, St. Matthew Street, Burnley.

RESULT OF FIRST, SECOND, THIRD, AND FOURTH MONTH

No.	BREED.	EGGS LAID.				Total Eggs Laid.	Total Points Scored.	RE-MARKS.
		1st Mth.	2nd Mth.	3rd Mth.	4th Mth.			
1	White Wyandottes	18	39	42	48	147	876	
2	"	34	59	41	25	159	946	Nos. 6 & 7
3	"	40	77	66	66	249	1344	[M., 8 B.
4	"	51	34	17	19	121	645	16 Dead.
5	"	11	37	75	75	198	1171	
6	"	81	50	58	70	259	1570	
7	"	8	44	28	56	136	870	
8	"	46	31	27	40	144	833	Nos. 29 &
9	"	31	72	65	56	224	1274	[32 M.
10	"	42	42	50	41	175	1014	
11	"	—	32	27	29	88	541	No. 42 M
12	"	37	58	49	53	197	1094	
13	"	80	55	49	50	234	1415	
14	"	40	70	74	86	270	1612	
15	"	83	76	39	39	237	1321	
16	"	7	24	43	62	136	769	
17	"	10	12	29	57	108	633	
18	"	24	43	32	63	162	843	
19	"	48	60	73	69	250	1359	
20	"	87	55	51	72	265	1493	
21	"	42	25	18	27	112	592	
22	"	59	15	20	46	140	729	87 Slight
23	"	85	70	64	79	298	1673	[Cold.
24	"	75	72	68	50	265	1518	
25	"	10	69	48	44	171	1102	
26	Buff Orpingtons..	64	24	11	45	144	783	
27	"	62	79	82	75	298	1746	
28	"	4	13	56	53	126	800	
29	"	73	45	68	68	254	1238	No. 115 B
30	"	65	34	50	62	211	1242	No. 120 B.
31	"	41	19	31	41	132	711	
32	"	26	44	47	55	172	1079	
33	Light Sussex....	31	41	39	58	169	954	
34	Speckled Sussex..	17	33	—	11	61	353	
35	Rhode Island Reds	—	—	2	38	40	235	
36	Columbian W'tes	—	—	—	12	12	70	
37	Buff Rocks.....	11	18	29	21	79	501	
38	"	13	8	25	23	69	429	
39	"	31	42	36	28	137	841	No. 153 B.
40	Valdarnos.....	—	25	31	47	103	627	
41	White Leghorns..	40	42	26	32	140	762	No. 164 M.
42	"	33	54	40	15	142	881	
43	"	35	46	41	53	175	1015	
44	"	20	35	20	33	108	603	
45	"	64	75	64	64	267	1551	No. 179 M.
46	"	32	30	30	33	125	708	
47	"	19	11	5	—	35	206	
48	"	45	87	76	87	295	1699	

Total eggs laid .. 1781 2028 1960 2277

LIST OF WINNERS.

OPEN SECTION.

- 1.—Pen 27: Buff Orpingtons. Miss Marjorie Fowler, Park Lodge, Temiscowles, near Blackburn.
- 2.—Pen 48: White Leghorns. Mr. Tom Barron, The Poultry Farm, Calforth, near Preston.
- 3.—Pen 23: White Wyandottes. Mr. Frank Toulmin, Esprick, Kirkham, near Preston.
- 4.—Pen 6: White Wyandottes. Mr. Hugh S. Cooper, White Poultry Farm, Whittingham, near Preston.
- 5.—Pen 45: White Leghorns. Mr. Tom Barron, The Poultry Farm, Calforth, near Preston.

LOCAL SECTION.

- 1.—Pen 14: White Wyandottes. Mr. Wm. Crossley, 10, Sand Street, Burnley.
- 2.—Pen 24: White Wyandottes. Mr. C. Longbottom, 28, St. Matthew Street, Burnley.
- 3.—Pen 13: White Wyandottes. Mr. Wm. Crossley, 10, Sand Street.
- 4.—Pen 9: White Wyandottes. Mr. Frank Heyworth, Burnley.
- 5.—Pen 42: White Leghorns. Mr. ———, Padiham Road, Burnley.

YEAR-BOOKS.

WE have always thought that to issue an attractive year-book—it must be attractive—is one of the very best methods of giving a new breed a boom, of keeping old breeds well to the front, and of letting outsiders know that there are such things as poultry clubs. And if we ever held the office of hon. secretary to any of the several specialist bodies that exist in the Fancy to-day, we would not rest content until we had seen an annual book issued worthy of the club's standing. In many societies there are members who seldom, if ever, exhibit, and who, when they do show, know well enough that the special prizes to which they contribute will never be theirs, simply because they cannot breed birds good enough to win them. Novice specials are well enough in their way; but we have never yet seen it a rule that purchased birds will be debarred from winning them. This, however, *en passant*. For these "quiet" members, then, the

of the many issued by the club, and the pick of those published since a year-book committee had the matter in hand. This year, however, it has been a one-man task—the said committee was not elected last year—and Mr. Drake is to be congratulated on his production. The usual "dry-as-dust" matters are given, but there are items interesting to "the-man-in-the-street" of the Fancy. A photograph of the president shows us whom we have at the head of affairs, and a few notes of his career—with an advertisement or two thrown in—are appreciated. One can see at a glance which are the "light" and which the "heavy" breeds—according to the Poultry Club. A printer's error—the fault of the editor or the reader—in the former provides us with a "Minorca Polish" and a "Sultan Sumatra Game"; and how La Flèche became classified as a heavy breed, while the Minorca figures among the light, and the Old English Game as a light breed and the Modern Game as a heavy, it would be interesting to learn. However, after all,



THE TYPE OF HOUSE USED IN THE NORTHERN UTILITY POULTRY SOCIETY'S LAYING COMPETITION. ONE OF THE PENS OF COMPETING BIRDS. [Copyright.]

The house is called "The Record" in courtesy to the "Illustrated Poultry Record," Mr. Longbottom, who won the £50 Competition offered by this paper a year or two ago, very generously gave it to the Society to help them in erecting their pens for the Annual Competition.

attractive year-book gives them something for their money. That is one benefit of such a publication; there are others.

In mentioning year-books for the present season—unfortunately few have been issued up to the time of our going to press with these notes—pride of place must be given to that sent out by the Poultry Club, not because it is the best, comparing the standing of the club with that of mere specialist bodies, but because it belongs to the premier club of the Fancy. The 1912 edition, edited by G. Tyrwhitt-Drake, F.Z.S., M.B.O.U., hon. corresponding member R.Z.S. of Dublin—and, we might add, hon. secretary and treasurer of the Poultry Club—is undoubtedly the best

these are mere minor details, although not the only faults of the year-book. "On some subjects of Current Interest," by the Rev. T. W. Sturges, M.A., gives one food for thought, and we see that the question of snow-white plumage is of such importance as to be "just now a matter of urgent current interest." Just what "Poultry-farming to-day" has to do with poultry fancying we must leave readers of Mr. Wilfrid H. G. Ewart's article to discover; it is a good subject for the Utility Poultry Club's year-book. Despite its shortcomings, however, there is much in the P.C. Year-Book to commend it. We would like it the better, nevertheless, if it contained more articles, and especially those likely to be of service to the novice.

We suggest the matter for the consideration of the editor ere the 1913 year-book is in the press.

The year-book of the Black Wyandotte Club is a publication worthy of the club, and since copies of it were in the hands of members on New Year's Day, it has created a record. It has been said that "new brooms sweep clean." Let it not be thought, however, that this is the case here. Knowing the new hon. secretary (Mr. Kingsley Willett) as we do, we can assure readers that as long as he retains that office it will have to be something most untoward that causes him to delay publication of future editions. Let it be an example for other specialist clubs. In achieving his end Mr. Willett has done so, we fear, by sacrificing a few advertisements; but now that members know his object, we cannot help thinking that they will support him in a proper manner for the 1913 book. The publication, as we have said, is worthy of the club—a club that ranks among the best in the poultry Fancy—and in addition to containing some good photographs of winning birds, there are several practical articles contributed by well-known authorities.

The Faverolles Club numbers rather less than sixty members, but it is among those which issue an attractive year-book. The present book consists of thirty-six pages within a salmon-coloured wrapper. It contains a list of the officers and members; the rules; and the standard of the Salmon variety only, although we believe that the club encourages the breeding and exhibiting of the White. There are also in the year-book half-tone illustrations of the four challenge cups owned by the club, as well as some interesting items concerning special prizes and wins at certain shows. Unfortunately, however, there are no notes dealing with the breed as an exhibition fowl or for utility purposes, hence the book is not so interesting to the beginner as it would be otherwise.

The British Minorca Club, with its list of some 120 members, may be said to stand well as a specialist poultry club. The Minorca is a two-variety breed, with a sub. breed in the Rose-combed Black. The present year-book, consisting of twenty-four pages, is bound in an attractive light green wrapper, and altogether it is a tasty publication. Among the contents may be mentioned a list of the officers and members; the rules; and the standard of perfection. There are also "a few historical notes" concerning the club—which was established in 1899—and illustrations of ideal birds, a cock and a hen. These latter certainly prove a good guide for the novice; nevertheless, a little information on points connected with the mating of stock, the preparing of likely specimens for the show-pen, and similar subjects would make the year-book more valuable for those who are beginning to keep Minorcas.

Year-books of other specialist clubs are not yet to hand, but when we get them we will give each a brief review.

THE U.P.C. YEAR-BOOK.

THE Year-Book and Register of the Utility Poultry Club, issued from the publishing office, 68B, Lincoln's Inn Fields, W.C., makes its appearance under a new editor, Mr. G. J. Hill, B.A., having taken over this work.

As essentially a book of reference, it is satisfactory to find that no material alteration has been made in the general features, which, however, have been brought up to date. With a list of members containing 1,500 names and addresses, a register of breeds giving particulars of over 1,000 pens of birds kept by members for utility purposes, and a great amount of other information, it is not surprising that the work is of considerable size and importance.

The book must, indeed, be invaluable to members, containing as it does full details of the numerous privileges enjoyed by them, with a number of pages devoted to statistical and educational matter of great use to anyone who is interested in poultry-keeping. The laying competitions which have made the club so famous receive a large share of attention, brief particulars being given of all the competitions held in this country since their inception by the club in 1897. If anybody requires evidence of the great advance made in the prolificacy of the British hen, we would recommend him to peruse these pages.

The record of the past year is an excellent one, and the club appears to have taken part in all those movements that affect the industry. The Literary Competition which proved so successful has provided the club with twelve pages of monthly notes, these being the work of Miss E. C. Davies, the winner of the competition. Written in a clear but terse style, they are full of timely hints which the poultry-keeper should be grateful for.

There is a mass of other statistical matter dealing with such subjects as the imports and exports of poultry and eggs, the monthly prices of eggs in 1911, railway rates, colleges giving instruction in poultry-keeping, papers publishing articles on poultry, clubs and societies interested in poultry, and the usual calendars, postal information, &c., of a publication of this kind.

THE "FEATHERED WORLD" YEAR-BOOK, 1912.*

WE have received a copy of the third year-book issued by our contemporary the *Feathered World*. It is a bulky publication of more than 700 pages, and treats exhaustively of many subjects connected with poultry and pigeons. It contains four coloured plates and innumerable reproductions of pen-and-ink sketches as well as photographs of prize-winning birds. Among the outstanding features of the book are the "Helpful Hints to Poultry-Keepers," which are freely illustrated; a review of the progress of the principal breeds, written by specialists; a list of prize-winners at the classic shows of 1911, including the names of fanciers who have secured firsts, seconds, or thirds at the Dairy, Manchester, Crystal Palace, Birmingham, and the specialist clubs' events, together with those of the judges; a list of specialist clubs in the United Kingdom and many of those in America and the Colonies. Such subjects as the Philo system, Mendelism for poultry fanciers, and line-breeding are also well handled. And for the poultry section alone the "*Feathered World* Year-Book" is well worth the price at which it is published—viz., one shilling.

*The *Feathered World*, 9, Arundel Street, Strand, London, W.C.

GAME, AND EGGS FOR THE FOUR WEEKS ENDING FEB. 17, 1912.

ENGLISH POULTRY—LONDON MARKETS.

DESCRIPTION.	PRICES REALISED DURING THE MONTH.			
	1st Week.	2nd Week.	3rd Week.	4th Week.
	Each.	Each.	Each.	Each.
Surrey Chickens	3/6 to 4/3	3/6 to 4/6	3/6 to 4/3	3/6 to 4/6
Sussex "	3/6 " 4/3	3/6 " 4/6	3/6 " 4/3	3/6 " 4/6
Yorkshire "	2/3 " 2/9	2/3 " 3/3	2/6 " 3/0	2/3 " 3/3
Boston "	2/3 " 3/0	2/3 " 3/3	2/6 " 3/0	2/3 " 3/3
Essex "	2/3 " 2/9	2/6 " 3/0	2/6 " 2/9	2/3 " 3/3
Capons	1/6 " 2/6	1/9 " 2/6	2/0 " 2/6	1/9 " 2/9
Irish Chickens	1/6 " 2/3	2/0 " 2/9	1/9 " 2/6	1/6 " 2/3
Live Hens	—	3/6 " 5/6	3/6 " 5/6	—
Aylesbury Ducks	2/6 " 4/0	2/6 " 4/0	—	—
Ducks	—	6/0 " 8/6	—	—
Goslin s	0/9 " 0/10	0/8 1/2 " 0/10	0/9 " 0/11	0/8 " 0/10
Turkeys, Cocks ...lb.	0/10, 0/11	0/9 " 0/11	0/11	0/9 " 0/11
" Hens ...lb.	—	—	—	—

ENGLISH GAME—LONDON MARKETS.

DESCRIPTION.	PRICES REALISED DURING THE MONTH.			
	1st Week.	2nd Week.	3rd Week.	4th Week.
	Each.	Each.	Each.	Each.
Grouse	3/6 to 4/6	4/0 to 4/6	—	—
Partridges	2/0 " 2/6	2/6 " 3/0	—	—
Pheasants	1/3 " 1/6	1/3 " 1/9	1/6	1/3 to 1/9
Black Game	2/3 " 2/6	2/3 " 2/9	2/3 to 2/9	1/6 " 2/3
Hares	1/0 " 2/3	1/0 " 2/6	1/0 " 2/3	1/0 " 2/6
Rabbits, Tame	0/8 " 0/11	0/7 " 1/0	0/9 " 1/0	0/4 " 1/0
" Wild	—	1/0 " 1/6	—	—
Golden Plover	1/9 " 2/3	1/6 " 1/9	1/6 " 2/0	1/6 " 1/9
Wild Duck	—	2/6 " 3/0	—	—
Woodcock	—	1/0 " 1/6	—	—
Sniipe	1/0 " 1/3	0/9 " 1/3	1/0 " 1/2	—
Parmigan	—	—	—	—

ENGLISH EGGS (Guaranteed New-Laid).

MARKETS.	PRICES REALISED DURING THE MONTH.			
	Per 120.	Per 120.	Per 120.	Per 120.
LONDON	13/- to 16/-	12/- to 15/-	12/- to 14/-	12/- to 15/0
Provinces.	Eggs per dozen.	Eggs per dozen.	Eggs per dozen.	Eggs per dozen.
CARLISLE	1/6	1/6	1/7	1/8 1/2
BRISTOL	1/8	1/8	1/9	1/6

FOREIGN POULTRY—LONDON MARKETS.

COUNTRIES OF ORIGIN.	PRICES REALISED DURING THE MONTH.			
	Chickens. Each.	Ducks. Each.	Ducklings. Each.	Geese. Per lb.
Russia	—	—	—	—
Belgium	—	—	—	—
France	—	—	—	—
United States of America	Very little foreign	—	poultry	—
Austria	—	—	—	—
Canada	—	—	—	—
Australia	—	—	—	—

IMPORTS OF POULTRY AND GAME.
MONTH ENDING JAN. 31, 1912.

FOREIGN GAME. LONDON MARKETS.		Price Each During Month.	IMPORTS OF POULTRY AND GAME. MONTH ENDING JAN. 31, 1912.	
			COUNTRIES OF ORIGIN.	DECLARED VALUES.
Capercailzie.....		—		Poultry.
Black Game.....		1/2 to 1/6	Russia	£3,254
Ptarmigan		1/6 " 1/2	France	£76,970
Partridges.....		1/6 " 2/0	Austria.....	£9,218
Quail.....		—	Austria-Hungary.....	£20,421
Bordeaux Pigeons		1/0 " 1/4	United States of America	£10,161
Hares		—	Other Countries	£5,967
Rabbits		0/7 1/2, 0/9	Totals	£9,305
Snipe		—		£149,381

IRISH EGGS.

DESCRIPTION.	1st Week.		2nd Week.		3rd Week.		4th Week.	
	Per 120.	12/6 to 14/0	Per 120.	12/0 to 14/0	Per 120.	12/0 to 14/0	Per 120.	13/0 to 14/0
Irish Eggs	12/6 to 14/0	12/0 to 14/0	12/0 to 14/0	12/0 to 14/0	12/0 to 14/0	12/0 to 14/0	13/0 to 14/0	13/0 to 14/0

FOREIGN EGGS.

DESCRIPTION.	1st Week.		2nd Week.		3rd Week.		4th Week.	
	Per 120.	12/6 to 14/0	Per 120.	12/0 to 14/0	Per 120.	12/0 to 14/0	Per 120.	13/0 to 14/0
French ...	12/6 to 14/0	12/0 to 14/0	12/0 to 14/0	12/0 to 14/0	12/0 to 14/0	12/0 to 14/0	13/6 to 14/6	13/6 to 14/6
Danish ...	12/0 " 14/0	12/0 " 14/0	12/0 " 14/0	12/0 " 14/0	12/0 " 14/0	12/0 " 14/0	14/0 " 15/0	14/0 " 15/0
Italian ...	12/6 " 14/0	12/0 " 14/0	12/0 " 14/0	12/0 " 14/0	12/0 " 14/0	12/0 " 14/0	13/6 " 14/6	13/6 " 14/6
Austrian ...	10/6 " 12/0	10/6 " 12/0	11/6 " 12/0	11/6 " 12/0	11/6 " 12/0	11/6 " 12/0	12/6 " 13/6	12/6 " 13/6
Russian ...	10/0 " 11/0	10/0 " 11/0	10/0 " 11/0	10/0 " 11/0	10/0 " 11/0	10/0 " 11/0	10/0 " 11/0	10/0 " 11/0

IMPORTS OF EGGS.
MONTH ENDING JAN. 31, 1921.

COUNTRIES OF ORIGIN.	Quantities in Gt. Hund.	Declared Values.
Russia	436,506	£197,510
Denmark	259,733	£159,568
Germany	71,440	£32,021
Netherlands	46,755	£21,828
France	27,583	£14,966
Italy	63,595	£36,442
Austria-Hungary	109,320	£49,727
Other Countries	204,940	£105,682
Totals	1,300,872	£617,744

A USEFUL POULTRY-BOOK.

"PROFITABLE POULTRY-KEEPING."*

THE point in which many of the poultry books which have been published during the last few years have failed is that they were insufficiently practical. They were really written more for the man of great experience than for the beginner. This is just where "Profitable Poultry-Keeping" scores so heavily, for it is written in a simple yet instructive manner. The beginner will find the points on which he needs information given in detail, while many other facts, which are more particularly of service to those who know a good deal about the subject, are omitted, and rightly so.

All branches of industrial poultry-keeping are included, as well as caponising and diseases. There are also chapters on geese, turkeys, ducks, and Guinea fowls. The book is well illustrated and clearly printed.

THE BUFF ORPINGTON CLUB.

AT a committee meeting, held at Oxford Court, Cannon Street, London, E.C., on Friday, February 9.

PRESENT.—The Rev. T. W. Sturges (chairman), Miss L. A. Smith, Messrs. J. Wilkinson, W. W. Broomhead, H. Hudson, W. Richardson, H. O. C. Jones, W. M. Bell, and W. J. Golding (Hon. Sec.).

MINUTES.—The minutes of the last committee meeting were read and confirmed.

Apologies for inability to attend the meeting were received from the President, Mr. Frank Bloomer, and Messrs. E. A. Cass and M. Lindner.

NEW MEMBERS.—The following were elected members of the Club: C. George, The Orpington Poultry Farm, Orpington, Kent; E. Barker, 5, Parkdale Road, Plumstead, Kent; G. Thorneycroft, 40, West Parade, Mount Pleasant, Fenton, Stoke-on-Trent, Staffs; W. Potter, Gib Heath Cottages, Devonshire Street, Soho, Birmingham; W. Walmsley, 60, Nuttall Lane, Ramsbottom, Bury; Mrs. Latilla, Marlands Farm, Itchingfield, Horsham; B. S. Wynne, Oak Villa, Whirley Grove, Macclesfield; Miss A. C. Golding, Hayward's Heath; W. Bretherton, 55, Empire Road, Linacre, near Liverpool; and S. H. Jacks, West Didsbury.

CLUB YEAR-BOOK.—It was resolved that the Club Year-Book for 1912 should be much enlarged and should contain, if possible, photo blocks of the four Open Class Winners at the recent Club Show, also articles of interest to the members should be written, and advertisements at a nominal rate to members should be solicited. Mr. W. W. Broomhead was appointed to assist the Hon. Sec. in carrying out the work.

The Hon. Sec. reported that he had inspected all the Club Show Challenge Cups, and they had been engraved and sent out again to their respective winners.

It was resolved that in sending out year-books

* No. 3 of The Smallholder Library. Price 1s. C. Arthur Pearson, Ltd., Henrietta Street, W.C.

special attention should be drawn to members of new Rule 6.

With a vote of thanks to the chairman for presiding the meeting closed.

W. J. GOLDING, Hon. Sec. and Treasurer.
Westwood Farm, Weald, Kent.

THE POULTRY CLUB.

THE monthly meeting of the Council was held on Friday, February 9, at two o'clock p.m., at the London Chamber of Commerce, Oxford Court, Cannon Street, London, E.C., when there were present Mr. H. Wallis (chair), Rev. T. W. Sturges, Rev. E. Lewis-Jones, Messrs. W. Clarke, W. Bibby, R. Fletcher Hearnshaw, H. Corrie, J. Carlton Hunting, J. Horn, W. Rice, W. Richardson, R. Watson, W. A. Jukes, W. M. Bell, J. Wilkinson, W. J. Golding, F. J. Broomhead, and G. Tyrwhitt-Drake, Hon. Sec. and Treasurer.

The minutes of the January Council meeting were read and signed as correct.

The following new members were duly elected: Recommended by Cheshire Branch—Harold Bennett, The Fields, Alsager, Stoke-on-Trent. Recommended by Gloucestershire Branch—J. D. Crewdson, Syde, Cheltenham; Joseph Vines, The Priory, Leonard Stanley, Glos.; C. T. Walker, Chesterton Poultry Farm, Cirencester. Recommended by Derbyshire Branch—W. A. Woodhead, Pilsley, Bakewell, Derbyshire. Recommended by Kent Branch—Fred Alexander, Wilmington, Kent. Recommended by Lancashire Branch—A. R. Fish, Holme-Mead, Hutton, near Preston. Recommended by South Wales Branch—Alfred Gollidge, Caerleon, Llanelly. John F. de C. Cooper, 2, Dunstan View, Seahouses, Chathill, Northumberland; A. Bendall, Braewood Lodge, Bath Road, Maidenhead; W. L. Archer, Ashwells Farm, Chalfont St. Giles, Bucks; Mrs. E. P. Prockter, Cloughmore, Newington, Ramsgate. Recommended by Rev. E. Lewis-Jones—(Life Member) Frank L. Platt, 363, Boston Avenue, Toledo, Ohio, U.S.A.

The following societies were duly associated: Recommended by North Wales Branch—Carnarvon Fanciers' (Open) Show: Secretary, R. Isaac Jones, 14, Castle Square, Carnarvon. Recommended by Kent Branch—Erith and District Fanciers' Society: Hon. Secretary, G. A. Rickett, 124, Riverdale Road, Erith, Kent.

The following shows were announced to be held under Club Rules and specials allotted:—Bath and West. Strathbogie Farmer Club, Royal Northern.

CORRESPONDENCE.—A letter from Mrs. Hayward with regard to Prize money, etc., due from Eastbourne Show, was read. She stated that she had already written to the Sussex Branch Secretary, but received no reply. Mr. Richardson stated that he had received no such letter. The correspondence dealing with the matter was then handed to the Sussex Secretary to deal with.

Correspondence with regard to the late South Metropolitan Show sent up by the Surrey Branch was then brought forward. The matter of the award of specials was considered, and the Hon. Secretary given instructions how to reply.

Other correspondence was read by the Hon. Secretary, who was instructed how to deal with same.

The point was raised re Miss Carey's advertisement appearing in the 1912 Year Book, page 143, and also in the Fancy Press being inaccurate. The Hon. Secretary was instructed to write to Miss Carey with regard to this and report at the next Council meeting.

Messrs. L. C. Verrey and W. A. Jukes were reappointed to act on behalf of the Club as delegates on the Preliminary Committee to form a National Poultry Institute.

Mr. Wm. Bibby appeals to the Council against the finding of the Lancashire Branch Committee on charges against J. H. Battersby and the Bolton Model Poultry Farm: *a.* "To hear evidence of Norman Cross and himself in which it is alleged there was misunderstanding"; *b.* "To hear his (Mr. Bibby's) explanation on the statement in which the Lancashire Branch express dissatisfaction." The Hon. Secretary having read correspondence with regard to same from the Lancashire Branch, Mr. Bibby gave particulars of his case, and answered questions put by members present. After considerable discussion it was resolved that the case be referred back to the Lancashire Branch for rehearing, with the suggestion that owing to possible local feeling it might be advisable to ask the Council to hear the whole case in London.

To consider the following resolution passed by the Bucks Branch:—"That this meeting recommends the Poultry Club to issue a small pamphlet setting forth the advantages of the Club for distribution among prospective members." Mr. J. Carlton Hunting, Hon. Secretary of the Bucks Branch, having given details, formally moved the resolution, which having been seconded, was agreed to. The Rev. T. W. Sturges and Mr. Carlton Hunting were appointed to write up the pamphlet to be submitted to the Council for issue.

The Hon. Secretary asked the Council to sanction the purchase of a new typewriter, recommending a Remington No. 10. This was agreed to.

The Rev. E. Lewis-Jones then proposed:—"That in the interests of poultry-breeding it is desirable to aim at an International standard for judging." He gave his reasons for bringing same forward, and having formally moved the resolution, seconded by Mr. W. Rice, it was duly carried.

The Rev. T. W. Sturges then moved that a Breed Cup be purchased for Camp nes.

The Hon. Treasurer of the club stated that he thought that the granting of further Breed Cups should be deferred until the Council was in a position to know whether in many cases the present ones paid. It was doubtful whether those recently granted were a success or not.

After a short discussion it was decided to defer the matter till the next meeting, the Hon. Secretary then to produce all figures dealing with the Breed Cups he is able to.

The next meeting of the Council will be held at the London Chamber of Commerce, Oxford Court, Cannon Street, London, E.C., on Friday, March 8, at two p.m. All prospective members' names must reach the Hon. Secretary on or before February 29, and, if residing in a county having a branch, through the Secretary of same.

Professor Elford's Successor.

Mr. M. A. Jull, B.S.A., has been appointed to succeed Professor Elford at Macdonald College. For some time Mr. Jull has been Poultry Expert to the British Columbia Government, and prior to that was assistant to Professor Attwood at West Virginia Station. He is a Guelph College man.

An Interesting Appointment.

We learn that Mr. Arthur Little, who went to South Africa a short time ago, has been appointed Poultry Expert to the Agricultural College, at Grootfontein, Cape Colony. We heartily congratulate Mr. Little, and wish him many years of useful work.

Owing to pressure on our space we have had to hold over some of our usual features.—Ed. I.P.R.

TRADE NOTICES.

A Superb Catalogue.

Mr. Tamlin, of 40, St. Margaret's, Twickenham, has succeeded, as he has succeeded on several previous occasions, in compiling one of the finest poultry-appliance catalogues we have ever seen. Consisting of more than a hundred and forty pages, and printed and illustrated in a really first-class manner, his 1912 catalogue is a truly remarkable publication. On the front cover there is a beautiful view, in colours, of Twickenham from Richmond Hill, while there are no fewer than a dozen full-page illustrations, as well as about 300 others of smaller dimensions. The place of honour is given, as would be expected, to a description of the famous "Nonpareil" incubator and brooder, for these are really the foundation of the business. The sale of these very necessary appliances to every up-to-date poultry-keeper has now reached the wonderful total of 78,309, and it is pointed out that not a single one has ever been returned on account of faulty construction—surely a striking testimony to the excellence of the machines. There are so many points of interest in the catalogue that it is really impossible for us to make mention of them in detail; but we strongly recommend our readers to send for a copy, and then they can study it for themselves. It is no exaggeration to say that during the twenty-two years since Mr. Tamlin submitted his first annual catalogue to the public his name has become a household word, and it certainly stands for first-class quality combined with reasonable prices.

New Knowledge on Poultry-Breeding.

A great effort is to be made in the present year, by means of the establishment of a National Poultry Institute and other educational means, to divert a part at least of the money spent on foreign eggs into the pockets of the British poultry-farmer. There is positively no reason why this enormous sum of over eight million pounds sterling, which is now paid annually for the eggs imported into England from abroad, should not be paid to the home producer. The issue of a new and enlarged edition of "Wright's Book of Poultry" synchronises with this national effort to keep some of the outgoing money inside these islands.

"Wright's Book of Poultry" will tell the ambitious poultry-keeper who wisely determines to start early in order to get his share of this eight millions everything he needs to know—how to mate his birds, how to breed, how to feed, how to make them lay better, how to breed and show valuable strains so as to make a sound profit from them, how to raise fowls for the table, how to dress and prepare them, how to market them to the best advantage, how to halve expenses, how to double profits; in short, how to insure an ever-increasing income from this pleasant industry. For the exhibitor the book is a necessity, for it embraces full and authoritative information as to the requirements of the Poultry Club to-day.

We advise those of our readers who are interested to send a postcard to the publishers, the Waverley Book Company, Ltd., 7 and 8, Old Bailey, London,

E.C., asking for their free booklet. This will be sent without charge or obligation, and it will tell them all about this book, give them particulars as to contents and specialist authors, and explain the very easy terms on which "Wright's Book of Poultry," complete in one compact volume, is supplied.

Some Hearson Innovations.

Messrs. Spratt's Patent Ltd., the proprietors of the well-known Hearson Incubator, have recently introduced a new Pedigree Tray for use in their machines. This is a very excellent feature, since in these days of trap-nests it enables one to keep quite separately the eggs from various pens, or even from the individual layers. The "Dalitefull" Egg Tester is a capital invention, for it dispenses, save on very dull days, with the need of a lamp or a candle. It certainly simplifies egg-testing very considerably. A new "hygienic" foster-mother has also been introduced, a well-made, inexpensive, and thoroughly reliable machine.

The Value of Mustard.

Messrs. J. Farrow and Co., of Peterborough, send us some very interesting particulars concerning the value of mustard for laying hens. It is claimed that Poultry Mustard has solved the secret of winter egg-production by including this speciality in the morning feed of the fowls. So popular has this commodity become amongst poultry-keepers that Messrs. Farrow have actually supplied it in one ton lots.

The quantity required is so small—viz., a teaspoonful to six fowls—and the cost is so very trifling, particularly when bought in kegs, that it represents about the finest investment any poultry-keeper could go in for: the increased egg-yield in many instances represents a return of over 1,100 per cent. on cost.

In some parts of the country fresh eggs are fetching one shilling for five at the present time, and this is, therefore, a most opportune moment to make the experiment.

Messrs. Farrow have sent us a copy of their new booklet entitled "Poultry-Keeping for the Million in the British Islands," being the first edition of 50,000; the second part of this book is a 50,000 reprint of their former treatise entitled "Mustard for Poultry for Winter Egg-Production." The first edition of 25,000 was exhausted in six weeks, and readers who are desirous to have a copy of this book should apply at once by postcard while there is a chance of their request being satisfied. It will be sent post-free to all applicants.

Messrs. William Cook & Sons' Exportations.

Messrs. William Cook and Sons, Originators of all the Orpingtons, have shipped the following from their only English address, Orpington House, St. Mary Cray, during the past month:

Per ss. Ancona to Lisbon, a trio of Blue Orpington fowls; and to Germany,

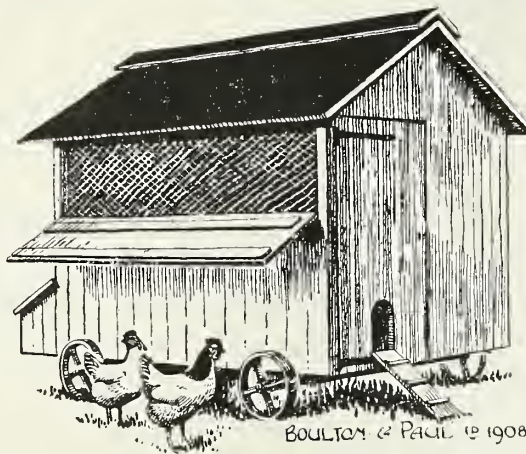
a first-class pen of Blue Orpington ducks; per Wells Fargo, to Long Island, a pen of White Orpingtons; and to Germany, Buff Orpington ducks; and to Kumasi, a pen each of Black Leghorns and Black Minorcas; per ss. Toledo to Lisbon, a trio of Buff Cochins and one Buff Orpington cockerel, also one Black Orpington cockerel; to Eecloo, Belgium, a pen of Buff Orpingtons; to Haarlem, Holland, a White Leghorn cockerel; per ss. Maloja to Melbourne, a pair of White Leghorns; to Rotterdam, a pen each of White Wyandottes, Buff Orpingtons, and White Leghorns; to Christiania, an American Mammoth Bronze Turkey cock; per Wells Fargo express to British Columbia, a pen of Buff Orpington ducks; per ss. Zaria, to Opofo, a pen of Buff Orpington fowls; to Riga, Russia, a pen each of White and Buff Orpingtons; per ss. Bohemian (via Wells Fargo express) to British Columbia, a pen of White Orpingtons; to Lago, per ss. Ardori, a pen each of Barred Rocks, White Orpingtons, Buff Orpingtons, and Light Brahmas, also Toulouse geese; via Messrs. McGrath's to Rio de Janeiro, four pens of Black Orpingtons and one pen of Plymouth Rocks.

Mr. Tamlin's Exports.

The following is a list of Mr. W. Tamlin's exports for January, 1912: Twelve 100, ten 60, and six 30 incubators, ten 100 and ten 60 foster-mothers, to Fletcher Bradley, agent for Canada; six 60, five 100, and six 30 incubators, ten 100 and six 60 foster-mothers, to Ed. Baron, agent for Switzerland; six 100 and six 60 incubators, six 100 and six 60 foster-mothers, to H. E. Mascarenhas, agent for Portugal; ten 100 and six 200 incubators, to Fernand Colman, agent for Belgium; six 30, ten 60, ten 100, and six 200 incubators, six 60 and six 100 Sunbeam foster-mothers, to Messrs. Chandler, agents for Victoria, Australia; one 60 and one 100 incubator, to Mr. M. P. Ferrer, Bilbao, Spain; one 100 incubator, to M. Pauk, Roumania; one 60 incubator and one 60 foster-mother, to Nairobi, order of Davis and Soper; one 60 incubator and one 60 foster-mother, to J. de la Rosa Y Real, Teneriffe; one 60 Sunbeam foster-mother, to J. F. Kershaw, Egypt; one 60 incubator, to Italy, per order of H. Gebhardt and Co.; six 60, six 100 incubators, and six 100 foster-mothers, to C. W. Champion, agent for the Orange River Colony.

When answering advertisements please mention the "Illustrated Poultry Record."

B.P. FOWLHOUSES



STRONG, USEFUL, AND WELL VENTILATED.

No. 10b. Fowlhouse.

Size 6 ft. by 4 ft. by 7 ft. high.

Strongly built of matchboarding, in sections; roof covered with tarred felt; flap at side for ventilation; mounted on cast-iron wheels, with iron axles; wood floor; nests at back; stained outside with "Stoprot"; lime-whitened inside.

Cash Price - £2 10 0

Carriage Paid to nearest Railway Station.

Many other designs in Catalogue No. 181A, post free on request.

BOULTON & PAUL, Ltd., Rose Lane Works, **NORWICH**